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1901 Beadnell, C. Marsh, Esq., Fleet Surgeon, R.N., *H.M.S. King Alfred, Portsmouth.*

1854 Beddoe, John, Esq., M.D., LL.D., F.R.S., F.R.C.P., PAST PRESIDENT (1889–91); Foreign Assoc., Anthrop. Soc., Paris; Corr. Member Anthrop. Soc., Berlin; Hon. Member Anthrop. Soc. Brussels and Washington, Soc. Friends of Science, Moscow; *The Chantry, Bradford-on-Avon, Wilts.* (¶§)

1909 Belhaven, Hon. R. G. A. Hamilton, Master of, *Wishaw House, Wishaw, N.B.*; 41 *Lennox Gardens, S.W.*

1899 Berry, R. J. A., Esq., M.D., F.R.C.S., F.R.S.E., Professor of Anatomy and Anthropology in the University of Melbourne, *Towcett, University Grounds, Melbourne.*

1907 Billson, C. J., Esq., M.A., *The Wayside, Oadby, Leicester.*

1909 Blackman, A. M., Esq., B.A., *Stokenchurch Vicarage, Wallingford.* (¶)

1909 Blagden, Charles Otto, Esq., M.A., *The Hermitage, Wimbledon Common S.W.* (¶)

1903 Blakiston, C. H., Esq., M.A., *Woodfalls, Exmouth; Eton College, Windsor.*

1906 Bland, Mrs., *The Residency, Penang, Straits Settlements.*

1909 Bliss, Ernest, Esq., *Oak Lodge, West Wickham, Kent.*

1896 Blundell, Herbert Weld, Esq., *Brooks's Club, S.W.*

1905 Bone, H. Peters, Esq., 28 *Adelaide Crescent, Brighton.*

1909 Bowden, W. D., Esq., *Kennema, Sierra Leone.*

1872 Bowly, Christopher, Esq., *Siddington House, Cirencester.*

1864 Brabrook, Sir E. W., C.B., F.S.A., F.R.S.N.A. Copenhagen, PAST PRESIDENT (1895–98); Corr. Mem. Anthrop. Soc., Paris; 178 *Bedford Hill, Balham, S.W.* (*¶§)

1865 Braby, F., Esq., F.G.S., *Bushey Lodge, Teddington.*

1900 Breton, Miss A. C., *Bath.* (¶)

1908 Breuil, L'Abbé H., 37 *Rue de Lausanne, Fribourg, Switzerland.*

1909 Broad, W. H., Esq., M.D., 64 *Rodney Street, Liverpool.*

1909 Brown, A. R., Esq., M.A., *Trinity College, Cambridge.*

1906 Brown, R. Grant, Esq., *East India United Service Club, St. James' Square, S.W.; c/o Postmaster, Rangoon.* (¶)

1909 Brown, W., Esq., Lecturer in Psychology, *King's College, London.*

1885 Browne, John, Esq., *Oakdene, Parkhill Road, Croydon, Surrey.*

1902 Bryce, T. H., Esq., M.D., Regius Professor of Anatomy in the University of Glasgow, 2 *Granby Terrace, Glasgow.* (¶)

1903 Bullen, Rev. R. A., B.A., F.G.S., F.L.S., *Englemoor, Heathside Road, Woking.*(*)

1895 Burnard, Robert, Esq., *Huccaby House, Princetown, Devon.*

1910 Burne, Miss C. S., 5 *Iverna Gardens, Kensington, W.*

1903 Burry, Miss B. Pullen-, *Lyceum Club, Picadilly, W.* (*)

1906 Bushnell, David I., Esq., Junr., *Bureau of Ethnology, Washington.* (*¶)

1867 Busteed, W. J., Esq., M.D., Brigade-Surgeon, 37 *Hawke Road, Upper Norwood, S.E.* (*)

Year of
Election.

1872 Cammiade, Gilbert Henry, Esq., *Pondicherry, India.* (*)

1892 Campbell, C. W., Esq., H.B.M. Consular Service, *Shanghai, China.*

1904 Campbell, Harry, Esq., M.D., 23 *Wimpole Street, W.*

1865 Carey, Major-General W. D., R.A., 22 *Archers Road, Southampton.* (*)

1906 Carter, James Thornton, Esq., F.Z.S., 1 *Hanover Square, W.*

1874 Church, Sir William Selby, Bart., K.C.B., M.D., D.Sc., Ex-President R.C.P., 130 *Harley Street, Cavendish Square, W.*

1877 Clapham, Crochley, Esq., M.D., *The Gables, Mayfield, Sussex.* (*¶)

1905 Clarke, A. Oldrid, Esq., 189 *Holloway Road, N.*

1909 Clarke, H. E., Esq., U.S. Vice-Consul, *Jerusalem.*

1895 Clodd, Edward, Esq., *Strafford House, Aldeburgh, Suffolk.*

1908 Coffey, George, Esq., M.R.I.A., Keeper of Irish Antiquities, *National Museum, Dublin.* (¶)

1908 Collett, J. W., Esq., M.D., c/o *Postmaster, Forcados, W. Africa; Bel Air, Guernsey.*

1863 Collingwood, J. Frederick, Esq., F.G.S., Foreign Assoc., Anthrop. Soc.. Paris, 5 *Irene Road, Parson's Green, S.W.* (*¶)

1888 Collyer, Henry C., Esq., *The Grange, Seaton, South Devon.*

1907 Colvile, Ernest F., Esq., *Nyassaland Administrative, Nyassaland Protectorate; New University Club, S.W.*

1909 Cook, A. B., Esq., M.A., *Queens' College, Cambridge.*

1908 Copland, J. L., Esq., 68 *Great George Street, Hillhead, Glasgow.*

1895 Corner, Frank, Esq., M.R.C.S., *Manor House, Poplar, E.* (¶)

1908 Crawford, J. W. W., Esq., M.D., *Kenia Medical Mission, Fort Hall, British East Africa.* (¶)

1904 Crawley, A. E., Esq., M.A., *Orchards, Oxshott, Surrey.* (¶)

1907 Crewdson, W., Esq., M.A., J.P., F.S.A., *Southside, St. Leonards-on-Sea.* (¶)

1893 Crombie, James Edward, Esq., *Parkhill House, Dyce, Aberdeen.* (¶)

1892 Crooke, William, Esq., B.A., *Langton House, Charlton Kings, Cheltenham* (¶§)

1907 Cross, James, Esq., F.G.S., 4 *and* 6 *Church Street, Camberwell, S.E.* (*)

1900 Crowfoot, J. W., Esq., M.A., *Ministry of Education, Cairo.* (¶)

1903 Cummins, Major S. L., R.A.M.C., *The Croft, Lower Putney Common, S.W.* (¶)

1896 Cust, Miss M. E. V., F.R.G.S., c/o *Rev. R. R. Howen Brown, The Vicarage Enfield.*

1909 Dallen, T., Esq., Local Auditor, *Calabar, S. Nigeria.*

1895 Dalton, Ormonde Maddock, Esq., M.A., F.S.A., Corr. Mem. Soc. d'Anthrop. Paris, *British Museum, Bloomsbury, W.C.* (*¶§)

Year of Election.

1902 Dames, M. Longworth, Esq., *Bayswater Private Hotel, Bayswater Terrace, W.* (¶)

1902 Daniels, Major W. Cooke (U.S.A. Army), c/o *Messrs. Brown, Shipley & Co.* 123 *Pall Mall, S.W.*; *Chateau de la Motte, Sonzay, Indre et Loire, France.*

1885 Darwin, W. Erasmus, Esq., F.G.S., 11 *Egerton Place, S.W.*

1893 Davies, Rev. Prof. T. Witton, B.A. (Lond.), Ph.D. (Leipzig), D.D. (Geneva), *University College, Bangor, North Wales.* (*)

1905 Davis, Mrs. Edward, 2 *Eastheath Road, Hampstead, N.W.*

1908 Dawkins, R. M., Esq., M.A., Director of the British School of Archæology, *Athens.*

1869 Dawkins, W. Boyd, Esq., M.A., D.Sc., F.R.S., F.S.A., F.G.S., Honorary Professor of Geology and Palæontology in the University of Manchester, *Fallowfield House, Fallowfield, Manchester.* (¶)

1909 Dayrell, E., Esq., District Commissioner, *S. Nigeria; Golfers' Club, Whitehall Court, S.W.*

1904 Dennett, R. E., Esq., *Benin*; c/o *H. S. King and Co.*, 9 *Pall Mall, S.W.* (¶)

1907 Dixon, A. F., Esq., Sc.D., Professor of Anatomy, *Trinity College, Dublin.* (*)

1908 Dixon, Dr. Roland B., Instructor in Ethnology, *Harvard University, Cambridge, Mass., U.S.A.*

1907 Don, John, Esq., B.Sc., *Carrick Academy, Maybole, Ayrshire, N.B.*

1909 Dornan, Rev. S. S., *P.O. Box* 510, *Bulawayo, Rhodesia.*

1906 Douglas, Robert H., Esq., F.R.G.S., c/o *Commissioners of Customs, Shanghai.*

1908 Droop, J. P., Esq., M.A., 11 *Cleveland Gardens, W.*

1899 Duckworth, W. L. H., Esq., M.A., M.D., Sc.D., *Jesus College, Cambridge.* (*¶)

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1905 Durand, R. A., Esq., *Lytleham, Rowledge, Farnham.* (¶)

1908 Durham, Miss M. Edith, 116*a King Henry's Road, N.W.* (¶)

1901 Durnan, T., Esq., *Worsboro' House, Grove Road, Millhouses, Sheffield.*

1862 Eastwood, J. W., Esq., M.D., 18 *Farndon Road, Oxford.*

1893 Ebbels, Arthur, Esq., 11 *Lavender Gardens, Clapham Common, S.W.*

1903 Ebbs, A. B., Esq., *Tuborg, Durham Avenue, Bromley, Kent.*

1902 Edgar, P. G., Esq., M.B., Ch.M.

1904 Edwards, C. Lewis, Esq., *Sta. Lucia, Battlefield Road, St. Albans.*

1906 Edwards, Capt. W. F. S., D.S.O., Inspector-General of Police, *Kampala, Uganda.*

1905 Eliot, Sir Charles, K.C.M.G., C.B., M.A., LL.D., Vice-Chancellor of the University of Sheffield, *Endcliffe Holt, Endcliffe Crescent, Sheffield.*

1906 Elkington, Ernest Way, Esq., F.R.G.S., *Savage Club, W.C.*

1909 Entwistle, Peter, Esq., Assistant Curator *Mayer Museum, Liverpool.*

Year of Election.

1907 Ernst, Mrs. Lucy Hoesch, Ph.D., *Villa Hoesch, Godesberg, Germany.*

1891 Evans, Arthur J., Esq., M.A., LL.D., Litt.D., F.R.S., F.B.A., F.S.A.; VICE-PRESIDENT; Professor of Prehistoric Archæology in the University of Oxford; *Youlbury, Oxford.* (¶§)

1901 Eyles, F., Esq., *Mazoe, Salisbury, Rhodesia* (*Per Private Bag*). (¶)

1903 Fallaize, E. N., Esq., B.A., *Vinchelez, Chase Court Gardens, Enfield.*

1900 Farnell, Lewis R., Esq., M.A., Litt.D., *Exeter College, Oxford.*

1880 Felkin, Robert William, Esq., M.D., F.R.G.S., 47 *Bassett Road, North Kensington, W.* (¶)

1908 Fenwick, N., Esq., Jun., *The Gables, New Road, Esher.* (¶)

1897 Ffennell, Miss M. C., 5 *Putney Heath Lane, S.W.*

1908 Ffoulkes, Captain H. D., R.F.A., Resident, *Panshin, Banchi Province, N. Nigeria.*

1866 Fischer, Robert, Esq., B.L., *Madura, Madras.* (*)

1906 Fletcher, Miss Gertrude, *St. Andrew's House Club, Mortimer Street, W.*

1908 Fleure, H. J., Esq., *University College, Aberystwyth.*

1904 Foote, R. Bruce, Esq., c/o *H. S. King and Co.*, 9 *Pall Mall, S.W.* (¶)

1883 Forbes, H. O., Esq., LL.D., Director of Museums, *The Museums, William Browne Street, Liverpool.* (¶)

1885 Frazer, James G., Esq., D.C.L., LL.D., Litt.D., *Trinity College, Cambridge.* (¶)

1907 Freire-Marreco, Miss Barbara W., *Potter's Croft, Horsell, Woking.* (¶)

1908 Fremantle, J. W., Esq., *Lokoja, N. Nigeria.*

1910 Fuller, A. W. F., Esq., 7 *Sydenham Hill, S.E.* (*)

1902 Furness, W. H., Esq., M.A., M.D., *Wallingford, Pa., U.S.A.* (*¶)

1862 Galton, Sir Francis, M.A., D.C.L., F.R.S., F.G.S., F.R.G.S.; PAST PRESIDENT (1885–89), 42 *Rutland Gate, S.W.* (¶§)

1901 Gardiner, A. H., Esq., *Worcester College, Oxford; Matthäikirchstrasse* 11, *Berlin, W.*

1881 Garson, John George, Esq., M.D., Foreign Assoc., Anthrop. Soc., Paris; Corr. Member Anthrop. Soc., Berlin, Moscow, Rome; *Moorcote, Eversley, Winchfield, Hants.* (¶)

1902 Garstang, J., Esq., M.A., D.Sc., B.Litt., F.S.A., John Rankin Professor of the Methods and Practice of Archæology and Reader in Egyptian Archæology in the University of Liverpool. Hon. Member of the Society of Northern Antiquaries, Copenhagen. *The University, Liverpool.* (¶)

1907 Gatehouse, T. E., Esq., 4 *Ludgate Hill, E.C.*

Year of Election.

1907 Geddes, A. Campbell, Esq., M.B., Ch.B., Demonstrator of Anatomy in the University of Edinburgh, *Redhouse, South Gillsland Road, Edinburgh.*

1901 George, E. C. S., Esq., C.I.E., Deputy Commissioner, *Meiktila, Burmah.*

1806 Giblin, Eric L., Esq., *Lodrington, Glenoreby, Tasmania.*

1907 Gibson, A. E. M., Esq., Barrister-at-Law, *Dorunkeh Chambers, Calabar, S. Nigeria.*

1901 Gladstone, R. J., Esq., M.D., 1 *Gloucester Gate, Regent's Park, N.W.* (§)

1879 Godman, F. Du Cane, Esq., F.R.S., *South Lodge, Horsham.* (*)

1903 Goldney, F. Bennett, Esq., *Abbot's Barton, Canterbury.*

1895 Gomme, G. L., Esq., F.S.A., 20 *Marlborough Place, St. John's Wood, N.W.* (¶)

1908 Goodman, S. C. N., Esq., 4 *Paper Buildings, Temple, E.C.; Oaklands, Ashtead, Surrey.*

1901 Gordon, Thomas H., Esq., B.A., *Ivy Bank, Tarporley.*

1887 Gowland, W., Esq., F.R.S., V.-P.S.A., F.I.C., F.C.S., PAST PRESIDENT (1905–1907), Emeritus Professor of Metallurgy, Royal School of Mines, South Kensington, 13 *Russell Road, Kensington, W.* (*¶§)

1905 Graham, W. A., Esq., *Bangkok, Siam.*

1894 Gray, John, Esq., B.Sc., A.R.S.M., TREASURER, Foreign Assoc., Anthrop. Soc. Paris, 9 *Park Hill, Clapham Park, S.W.* (*¶§)

1903 Gray, Rev. J., *St. Peter's, Falcon Avenue, Morningside Road, Edinburgh.* (¶)

1888 Greatheed, William, Esq., 67 *Chancery Lane, W.C.*

1905 Green, F. W., Esq., M.A., *Jesus College, Cambridge.*

1892 Green, Upfield, Esq., F.G.S., 8 *Bramshill Road, Harlesden, N.W.*

1899 Griffith, F. Llewellyn, Esq., 11 *Norham Gardens, Oxford.* (¶)

1905 Grist, C. J., Esq., M.A., *The Tiffin's School, Kingston.*

1889 Haddon, Alfred C., Esq., M.A., Sc.D., F.R.S., M.R.I.A., PAST PRESIDENT (1901–1903), Reader in Ethnology in the University of Cambridge, Assoc. Anthrop. Soc. Paris; Corr. Mem. Anthrop. Soc. Berlin, Florence, Rome and Stockholm, *Inisfail, Hills Road, Cambridge* (¶§*)

1905 Haddon, E. B., Esq., B.A.. *Gondokoro, viâ Khartûm.* (¶)

1910 Haines, B. J., Esq., *Travancore House, Pewsey.*

1893 Hale, Charles George, Esq., 77 *St. Mary's Mansions, Paddington, W.*

1903 Hampton, G. H., Esq., 22 *Cleveland Terrace, Darlington.*

1890 Hardy, Norman, Esq., 69 *Cathcart Studios, Redcliffe Road, S.W.*

1884 Hargreaves, Miss H. M., 37 *Clarence Gate Gardens, Regent's Park, N.W.*

1902 Harrison, Alfred C., Esq., 1616 *Locust Street, Philadelphia.*

1904 Harrison, H. S., Esq., D.Sc., *The Horniman Museum, Forest Hill, S.E.* (§)

Year of Election.

1897 Hartland, E. S., Esq., F.S.A., *Highgarth, Gloucester.* (*¶§)

1909 Harward, F. H., Esq., Assistant District Commissioner, *S. Nigeria.*

1905 Hastings, Rev. J., D.D., *St. Cyrus, Montrose, N.B.*

1893 Haswell, George Handel, Esq., *Cornwall Works, Birmingham.*

1889 Haverfield, F., Esq., M.A., F.B.A., F.S.A., Camden Professor of Ancient History in the University of Oxford, *Brasenose College, Oxford.* (*)

1902 Haviland, H. A., Esq., M.D., *Universities' Mission, Magila, Tanga, German East Africa.*

1905 Hay, Matthew, Esq., M.D., Professor of Forensic Medicine, *The University, Aberdeen.*

1885 Heape, C., Esq., *High Lane, near Stockport.*

1904 Hennessey, Captain H. Pope, *Mombasa, British East Africa.* (¶)

1886 Hervey, D. F. A., Esq., C.M.G., *Westfield, Aldeburgh.* (¶)

1863 Hewlett, Alfred, Esq., F.G.S., *Haseley Manor, Warwick.*

1895 Hickson, Prof. S. J., D.Sc., F.R.S., *The University, Manchester.* (*)

1909 Higgins, H., Esq., 6 *Rollestone Drive, Wallasey, Cheshire.*

1906 Hildburgh, W. L., Esq., M.A., Ph.D. (¶)

1906 Hilton-Simpson, Melville W., Esq., F.R.G.S., *Sole Street House, Faversham, Kent.*

1899 Hobson, Mrs. Carey, 5 *Beaumont Crescent, West Kensington, W.*

1909 Hocart, A. M., Esq., *Lakeba, Fiji.*

1903 Hocken, T. M., Esq., M.R.C.S., F.R.G.S., F.L.S., *Dunedin, New Zealand.*

1906 Hodges, F. W., Esq., *H.M. Patent Office*, 25, *Southampton Buildings, W.C.*

1900 Hodgson, T. V., Esq., 54 *Kingsley Road, Plymouth.*

1906 Hodson, T. C., Esq., 5 *Park Avenue North, Hornsey, N.* (¶§)

1899 Holdich, Col. Sir T. Hungerford, R.E., K.C.M.G., K.C.I.E., C.B., Sc.D., 41 *Courtfield Road, S.W.* (¶)

1901 Hollis, A. C., Esq., *Mombasa, East Africa.* (¶)

1881 Holmes, T. V., Esq., F.G.S., 28 *Croom's Hill, Greenwich, S.E.* (¶)

1894 Horsley, Sir Victor, F.R.S., F.R.C.S., 25 *Cavendish Square, W.*

1902 Houghton, B., Esq., *Akzab, Burma.*

1889 Howden, Robert, Esq., M.A., M.B., F.R.S.E., Prof. of Anatomy, Durham University, 14 *Burdon Terrace, Newcastle-on-Tyne.*

1896 Howorth, Sir Henry H., K.C.I.E., D.C.L., F.R.S., F.S.A., 30 *Collingham Place, Earl's Court.* (¶)

1879 Hügel, Baron A. von, 53 *Barton Road, Cambridge.* (¶)

1898 Hutchinson, Rev. H. Neville, 17 *St. John's Wood Park, Finchley Road, N.W.*

1898 Iles, George, Esq., c/o *Public Library, Ottawa, Canada.* (*)

1863 Jackson, Henry, Esq., O.M., Litt.D., M.A., F.B.A., Regius Professor of Greek in the University of Cambridge, *Trinity College, Cambridge.* (*)

**Year of
Election.**

1910 James, Rev. W. Cory, M.A., *East Grove, Rhayader, Radnorshire.*
1872 Jeaffreson, W. J., Esq., M.A.
1869 Jeffery, F. J., Esq. (*)
1908 Jervoise, S. P. V., Esq., Assistant Collector, *Entebbe, Uganda.*
1906 Johari, Omar Hajie Amod, Esq., *Post Porbandar, via Bombay, India.*
1885 Johnston, Sir H. H., G.C.M.G., K.C.B., D.Sc., F.Z.S., *St. John's Priory, Poling, Arundel.* (¶§)
1901 Johnstone, H. B., Esq., B.A., H.B.M. Vice-Consul, *Mogador, Morocco.*
1907 Jonas, H. C., Esq., M.D., 30, *Bear Street, Barnstaple, N. Devon.*
1902 Joyce, T. A., Esq., M.A., SECRETARY, *British Museum, W.C.* (¶§)
1905 Joyce, T. Heath, Esq., *Whitefriars, Nettlecombe Avenue, Southsea.*
1907 Judge, James J., Esq., 15, *Hill Park Crescent, Plymouth.*
1906 Juettner, Prof. Otto, M.D., *Post Graduate School of Physiological Therapeutics, Cincinnati, Ohio, U.S.A.*

1879 Keane, A. H., Esq., B.A., LL.D., Corr. Member Italian Soc. Anthrop. 79 *Broadhurst Gardens, South Hampstead, N.W.* (¶)
1896 Keith, A., Esq., M.D., F.R.C.S., Conservator of the Museum, Royal College of Surgeons; 17, *Aubert Park, Highbury, N.* (¶§)
1891 Kitts, Eustace John, Esq., *Eversleigh, Heene, Worthing.* (*)
1902 Kloss, Cecil B., Esq., F.Z.S., *The Museum, Johore.*
1906 Knocker, Frederick W., Esq., *Temple Ewell, Dover.* (¶)
1909 Knowles, F. H. S., Esq., M.A., 1, *Pemberley Avenue, Bedford.*
1881 Knowles, W. J., Esq., *Flixton Place, Ballymena, Co. Antrim.* (¶)

1909 La Chard, L. W., Esq., *Nyassaland Protectorate, Central Africa.*
1899 Lang, Andrew, Esq., M.A., D.Litt., F.B.A., 1 *Marloes Road, Kensington, W.* (¶)
1905 Large, R. Emmott, Esq., 1 *Verulam Buildings, Gray's Inn, W.C.*
1888 Law, Walter W., Esq., *Scarborough, New York, U.S.A.* (*)
1885 Lawrence, E., Esq., *Kama, Sunningdale Avenue, Chalkwell Park, Leigh-on-Sea, Essex.* (*)
1899 Lawrence, George Fabeau, Esq., 7 *West Hill, Wandsworth, S.W.*
1902 Layard, Miss Nina F., *Rookwood, Fonnereau Road, Ipswich.* (¶)
1904 Lennox, D., Esq., M.D., *Tayside House,* 162 *Nethergate, Dundee.* (*)
1901 Letts, C., Esq., 8 *Bartlett's Buildings, Holborn Circus, E.C.*
1909 Leveson, H. E., Esq., *East India United Service Club, St. James's Square, S.W.;* c/o *T. Cook and Sons, Rangoon.*
1866 Lewis, A. L., Esq., F.C.A., 35 *Beddington Gardens, Wallington, Surrey.* (*¶§)
1893 Longman, Charles James, Esq., M.A., 27 *Norfolk Square, W.* (*)

Year of Election.

1884 Macalister, Alexander, Esq., M.D., F.R.S., Professor of Anatomy in the University of Cambridge, PAST PRESIDENT (1893–95), *Torrisdale, Cambridge.* (¶§)

1910 McCormick, Rev. F., M.R.A.S., F.S.A. (Scot.) *Wrockwardine Wood Rectory, Wellington, Salop.*

1904 McCulloch, Major T., R.A.M.C.

1910 McDougall, William, Esq., M.A., *Wood's End, Foxcombe Hill, Oxford.* (¶§)

1901 Mace, A., Esq., *The Crossways, Highgate, Walsall.*

1909 MacGregor, Rev. J. K., B.D., *Hope Waddell Institute, Calabar, W. Africa.* (¶)

1899 MacIver, David Randall-, Esq., M.A., D.Sc., F.S.A., F.R.G.S., *Wolverton House, Clifton, Bristol; The University Museum, Philadelphia;* c/o *Congdon and Co., Cairo.* (¶)

1904 Mackay, J., Esq., *Craig-ard, Farcliffe Road, Bradford.*

1910 Mackintosh, J. S., Esq., *Platt's Lane, Hampstead, N.W.*

1899 Maclagan, R. C., Esq., M.D., 5 *Coates Crescent, Edinburgh.*

1908 MacMichael, H. A., Esq., Deputy Inspector, Sudan Civil Service, *Baru, Kordofan, Sudan.* (¶)

1885 MacRitchie, David, Esq., F.S.A. Scot., 4 *Archibald Place, Edinburgh.* (¶)

1908 Malik Muhammad Din, Irrigation Officer, *Bahawalpur State, Punjab.*

1881 Man, E. H., Esq., C.I.E., *St. Helen's, Preston Park, Brighton.* (¶)

1892 March, H. Colley, Esq., M.D., *Portesham, Dorchester.* (*¶)

1896 Marett, R. R., Esq., M.A., *Exeter College, Oxford; Westbury Lodge, Norham Road, Oxford.* (*¶§)

1909 Marshall, J. H., Esq., M.A., Director of the Archæological Survey of India, *Bennore, Simla.*

1905 Marten, R. H., Esq., M.D., 12 *North Terrace, Adelaide, South Australia.*

1902 Martin, E. F., Esq., *Gold Coast Machinery Trading Co., Sekondi, West Africa.* (¶)

1868 Martin, Sir Richard Biddulph, Bart., M.A., F.R.G.S., VICE-PRESIDENT, *Overbury Court, Tewkesbury;* 10 *Hill Street, W.* (*¶§)

1894 Maudslay, A. P., Esq., F.R.G.S., 32 *Montpelier Square, Knightsbridge, S.W.* (¶§)

1881 Meldola, Raphael, Esq., F.R.S., F.R.A.S., F.C.S., F.I.C., Professor of Chemistry in the Finsbury Technical College, City and Guilds of London Institute, 6 *Brunswick Square, W.C.* (*¶)

1909 Meldon, Major J. A., *Windham Club, St. James' Square, S.W.*

1904 Melland, Frank H., Esq., *M'pika, Northern Rhodesia.*

1908 Merivale, Reginald, Esq., 11 *New Square, Lincoln's Inn, W.C.*

1877 Messer, A. B., Esq., M.D., Inspector-General of Hospitals and Fleet, *Kinclune, Carlisle Road, Eastbourne.* (*¶)

1909 Milne, Major Robertson, I.M.S., *Berhampur, E.B.S. Railway, Bengal.*

1908 Milton, J. H., Esq., *Harrison House, College Avenue, Crosby, Liverpool.*

Year of Election.

1901 Mitchell, A., Esq., M.D., M.C., 87 *Regent Street, W.*

1906 Morison, A., Esq., *Mombasa, British East Africa.*

1870 Morrison, Walter, Esq., M.A., 77 *Cromwell Road, S.W.* (*)

1894 Mortimer, J. R., Esq., *Driffield, Yorks.*

1907 Mott, Frederick Walker, Esq., M.D., F.R.S., F.R.C.P., 25 *Nottingham Place, W.*

1885 Munro, R., Esq., M.A., M.D., LL.D., F.R.S.E., *Elmbank, Largs, Ayrshire, N.B.* (*¶)

1871 Murray, Adam, Esq., F.G.S. (*)

1905 Musgrove, J., Esq., M.D., Bute Professor of Anatomy, *The University, St. Andrews, N.B.*

1875 Muspratt, Edmund K., Esq., F.C.S., *Seaforth Hall, Seaforth, near Liverpool.*

1896 Myers, C. S., Esq., M.A., M.D., *Galewood Tower, Great Shelford, near Cambridge.* (¶*)

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Paris... L'Anthropologie.
Paris... École d'Anthropologie.
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— Année Sociologique.

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Stuttgart... Zeitschrift für Morphologie und Anthropologie.

GREECE.

Athens... Ephemeris Archaiologikè.

— Annual of the British School of Archæology.

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JOURNAL

OF THE

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ANNUAL GENERAL MEETING.

JANUARY 26TH, 1909.

Professor W. RIDGEWAY, F.B.A., *President, in the Chair.*

The Minutes of the last Annual General Meeting were read and carried.

The PRESIDENT appointed Mr. R. A. DURAND and Dr. W. L. HILDBURGH Scrutineers, and declared the ballot open.

The PRESIDENT announced the election of Dr. M. HOERNES, Dr. G. SCHWALBE and Professor W. Z. RIPLEY as Honorary Fellows, and of Mr. F. H. S. KNOWLES as an Ordinary Fellow, of the Institute.

The SECRETARY read the Report of the Council for 1908, which, on the motion of Mr. LEWIS, seconded by Mr. RAY, was unanimously adopted (p. 2).

The TREASURER presented his Report for 1908 (p. 6).

Mr. PARKYN called attention to the inadequacy of the receipts as compared with the expenditure in the matter of the bibliography.

The SECRETARY gave a short explanation.

On the motion of Mr. PARKYN, seconded by Mr. LONGWORTH DAMES, the Report was adopted unanimously.

The PRESIDENT delivered his address on "The Relation of Anthropology to Classical Studies" (p. 10).

A vote of thanks to the President was proposed by Dr. HADDON, who asked, in the name of the Institute, that the President would permit his address to be printed in the *Journal.*

The motion was seconded by Mr. G. L. GOMME and carried by acclamation.

The SCRUTINEERS then handed in their Report, and the following were declared to be duly elected as Officers and Council for the year 1909–10:—

President.—Professor W. Ridgeway, M.A., D.Litt., LL.D., F.B.A.

Vice-Presidents.

A. J. Evans, Esq., M.A., D.Litt., F.R.S., F.B.A.
Professor A. Thomson, M.A., M.B.
Col. Sir T. H. Holdich, K.C.M.G., K.C.I.E., C.B.

Hon. Secretary.—T. A. Joyce, Esq., M.A.

Hon. Treasurer.—J. Gray, Esq., B.Sc.

Council.

M. L. Dames, Esq.
W. L. H. Duckworth, Esq., M.A., M.D., Sc.D.
R. J. Gladstone, Esq., M.D.
T. C. Hodson, Esq.
Sir H. H. Johnston, G.C.M.G., K.C.B.
T. Heath Joyce, Esq.
A. Keith, Esq., M.D.
A. L. Lewis, Esq., F.C.A.
Sir R. B. Martin, Bart.
A. P. Maudslay, Esq.
R. H. Pye, Esq.
S. H. Ray, Esq., M.A.
Professor Carveth Read, M.A.
W. H. R. Rivers, Esq., M.A., M.D., F.R.S.
C. G. Seligmann, Esq., M.D.
W. W. Skeat, Esq., M.A.
Sir R. C. Temple, Bart., C.I.E.
Professor E. Westermarck, Ph.D.
W. Wright, Esq., M.B., D.Sc.
G. Udny Yule, Esq., F.S.S.

A vote of thanks to the outgoing members of Council was carried on the motion of Mr. LEWIS, seconded by Mr. LEVESON.

A vote of thanks to the Scrutineers was carried on the motion of Mr. EDGE-PARTINGTON.

REPORT OF THE COUNCIL FOR 1908.

The Council is able to report a year of unusual progress. The number of new fellows elected is greater than the corresponding figure for 1907, though the increase is less apparent owing to the losses sustained by death and resignation. It was found necessary, moreover, to remove a number of names from the list of

Fellows, owing to persistent non-payment of subscription. The numerical gains and losses of the Institute are expressed in the appended table:—

	Honorary Fellows.	Corresponding Fellows.	Local Correspondents.	Ordinary Fellows.		Total Ordinary	Total Membership.
				Compounding.	Subscribing.		
1 Jan., 1908 ...	44	5	34	81	328	409	492
Less by death or resignation.	−3			−1	−32	−33	−36
Since elected ...			+2	+1	+36	+37	+39
1 Jan., 1909 ...	41	5	36	81	332	413	495

Among the losses which the Institute has suffered through death are Dr. E. T. Hamy, Dr. A. W. Howitt and Professor O. T. Mason, Honorary Fellows; Messrs. G. M. Atkinson, W. M. Beaufort, Dr. S. W. Bushell, Mr. R. Codrington, Sir John Evans, Mr. W. Hurst, Dr. G. Oppert and Miss Rücker, Ordinary Fellows.

Dr. E. T. Hamy was elected an Honorary Fellow in 1884. As Professor in the Museum of Natural History, and Director of the Museum of Ethnography in Paris, his studies had covered an unusually wide field. He was an ex-President of the Anthropological Society of Paris, and by his death, at the age of sixty-four, France loses one of her leading anthropologists.

The death of Dr. A. W. Howitt has already been noticed in *Man* (1908, 45). His well-known works on the Australian aborigines were based on practical experience in the field commencing as early as 1860. In particular, his book on the *Native Tribes of South-East Australia* will remain a classic for students of anthropology.

Professor Otis Tufton Mason died in November. Born in 1838, he was educated at Columbia University, Washington, where he graduated in 1861. In 1874 began his long connection with the National Museum, of the Ethnological Department of which he was head curator at the time of his death. His published writings were many, his monograph on Aboriginal American Basketry being one of the most noteworthy. He was elected an Honorary Fellow of the Royal Anthropological Institute in 1886.

In Mr. G. M. Atkinson the Institute has lost one of its oldest fellows. He was elected in 1874, and was a well-known figure at the meetings. He had more than once served on the Council.

Dr. S. W. Bushell died in September, and his loss will be much felt by all orientalists. He was particularly eminent as a student of Chinese art and antiquities, in which he was, perhaps, the leading authority in this country.

The loss which the Institute has sustained by the decease of Sir John Evans has been keenly felt by all archæologists. A full obituary notice appeared in *Man* (1908, 51). The Council takes this opportunity of offering once more a tribute to the memory of their distinguished ex-President.

Another fellow of very long standing was Professor G. Oppert, who joined the Ethnological Society in 1869, and the Anthropological Institute on its foundation. He was one of the leading authorities on Hebrew, Sanskrit, and Indian languages, and had occupied professorial chairs at the Universities both of Madras and Berlin.

Fellows of the Institute will also regret the loss of the following travellers and men of science whose researches have done much to further the study of Anthropology:

Professor Wilhelm Grube, the well-known Sinologist, died in July. He had been connected with the Berlin Museum für Völkerkunde, and had recently undertaken a scientific expedition to North China.

The well-known Americanist, Morris K. Jesup, died in January. He had devoted himself principally to the studies of the peoples of the North West and their possible connection with the inhabitants of North East Asia.

Dr. Abraham Lissauer will be regretted by students of two branches of Anthropology. His training as a doctor had led him, naturally, to the study of physical anthropology, but he had also done eminent work in the sphere of European pre-history.

Mr. Archibald Little was well known for his travels in Central and Western China, and his books contain much that is of use to students of the manners and customs of the Chinese.

Hauptmann Moritz Merker is chiefly known to English anthropologists as the author of a valuable monograph on the Masai. He died in German East Africa in February last.

The Danish explorer Mylius-Erichsen, who died in November, was known for his researches among the Eskimo of West Greenland. His personal interest lay chiefly in Folklore.

Richard Pischel, who died in December, was one of the principal Sanskrit and Prakrit scholars in Europe, and amongst his published works are many articles dealing with the life of Buddha. He was one of the chief promoters of the Turkestan Expedition of Grünwedel and Le Coq.

Dr. Wilhelm Reiss, the eminent colleague of Professor Stubel, and well known for his excavations in the necropolis of Ancon, Peru, and for other work in South America, died in June as the result of a hunting accident.

The death of Professor E. Schrader, the distinguished Assyriologist, took place in July. He leaves behind him a large amount of published material which will always be of importance to students of Assyriology.

Dr. Emil Stephan, who died in May, had carried out valuable researches of an ethnographical nature in the Bismarck Archipelago.

MEETINGS.

During the year ending December 31st, 1908, ten ordinary meetings and one special meeting were held. At these, thirteen papers were read, nine dealing with ethnographical, one physical, one archæological, one linguistic and one with historical subjects. Six exhibitions of specimens were also made.

HUXLEY MEMORIAL LECTURE.

The Huxley Memorial Lecture was delivered by Professor W. Z. Ripley of Harvard University on November 13th. The title of the lecture was the "European inhabitants of the United States." At the conclusion of the proceedings the President presented Professor Ripley with the Huxley Memorial Medal in recognition of his eminent services to Anthropology.

PUBLICATIONS.

During the year two half-yearly parts of the *Journal* have been issued, viz., Vol. XXXVII, 2 (July–December, 1907) and Vol. XXXVIII, 1 (January–June, 1908). Of the former 112 copies have been sold, of the latter 107. The Council is pleased to call attention to the fact that the combined sales exceed the record constituted last year by no less than 43 copies. Owing to this increase in the sales it has been determined to increase the future editions.

With regard to *Man*, the usual twelve monthly parts have been issued. The amount received both from subscriptions and office sales shows considerable excess over last year. The Council recommends that no change be made in the present system of subscription until the result of the Institute's Memorial to the Government be known. As soon as a definite reply to the Memorial has been received the question of abolishing or modifying the existing system of subscription will again be discussed in the light of that reply.

A second volume of the Bibliography of Anthropology and Folklore, containing works published in the British Empire in 1907, prepared under the direction of a joint Committee of the Royal Anthropological Institute and the Folklore Society, has also been published.

LIBRARY.

The number of accessions to the Library surpasses the record constituted last year by over twenty volumes. Binding of current periodicals is well up-to-date, and the exchange list has been increased by the addition of one British and three foreign periodicals.

EXTERNAL.

A Memorial has been drafted and presented to the Government, praying that an annual subsidy and offices in the Imperial Institute be granted to the Royal Anthropological Institute. The full text of this memorial, which was signed by a large number of influential personages, both fellows and non-fellows of the Institute, was circulated amongst the fellows, and will be reprinted amongst the Miscellanea of the *Journal* (Vol. XXXVIII, 2).

TREASURER'S REPORT FOR THE YEAR 1908.

On the 31st December, 1908, the assets of the Institute were as follows:—

	£ s. d.	£ s. d.
Assets (not immediately realisable):—		
Books in Library, Publications, Furniture as per estimate of 1903 ...		885 0 0
Realisable Assets:—		
£300 Metropolitan Consolidated 3½ per cent. Stock, present value	307 10 0	
Balance at Bank	359 10 5	
Cash in Hand	2 1 9	
Petty cash	5 17 11	
Arrears of subscriptions, £186 12*s.* 0*d.* valued at	86 0 0	
		761 0 1
Total Assets		£1,646 0 1

Against which there are liabilities:—

	£ s. d.	
Anthropological *Notes and Queries* ...	67 16 11	
Library Fund	3 0 8	
		70 17 7
Leaving a surplus, if all property were realised, of		£1,575 2 6

Considering only our immediately realisable assets:—

	£ s. d.
These amount to	761 0 1
Less	70 17 7
	£690 2 6

The state of ideal solvency also implies, as in my last report, the following additional liabilities:—

	£ s. d.
Journal (1908)	250 0 0
Man (October, November, December)	38 12 11
Unexpended life subscriptions	434 10 0
Total	£723 2 11
Our immediately realisable Reserve Fund is	690 2 6
Leaving a deficit in the Reserve Fund of	33 0 5

THE FINANCIAL POSITION OF THE INSTITUTE.

The total receipts of the Institute are £26 less than last year.

The receipts from annual subscriptions are £16 less, and the receipts from life subscriptions £73 10*s.* less than last year.

The receipts from the sale of *Journal* are £18 more and from the sale of *Man* £31 more than last year.

The total expenditure this year is £175 less than last year, a decrease which more than neutralizes the small decrease in the receipts.

The financial progress of the Institute during the last six years may be illustrated by the balances at the end of each year. These are (to the nearest pound):—at the end of 1903, £55; of 1904, £118; of 1905, £152; of 1906, £191; of 1907, £258; and of 1908, £368.

J. GRAY, *Hon. Treasurer.*

ROYAL ANTHROPOLOGICAL INSTITUTE

Receipts and Payments

RECEIPTS.	£	s.	d.	£	s.	d.	£	s.	d.
Balances in hand, January 1st, 1908 :—									
Cash in Bank :—									
Deposit account	100	0	0						
Current account	147	2	1						
Cash in Hand	3	0	0						
Petty cash	4	14	2						
Country cheques not paid into Bank	3	4	0						
				258	0	3			
Less Balances owed as per 1907 Account :—									
Library Fund	5	4	10						
"Notes and Queries"	63	18	8						
				69	3	6			
							188	16	9
Subscriptions :—									
Life Subscription	31	10	0						
Ordinary	547	1	0						
Arrears	29	8	0						
Advance	32	11	0						
				640	10	0			
Less Refund				6	6	0			
							634	4	0
Sale of Journal				194	1	11			
Sale of Huxley Lecture				3	2	2			
							197	4	1
"Man"									
Net receipts				127	10	5			
Postage, etc.				16	12	0			
							144	2	5
Advertisements in *Journal*							1	18	0
„ „ "Man"							1	2	3
Dividends and Interest							11	0	10
Library Fund :—									
Balance, January 1st, 1908	5	4	10						
Grant	10	0	0						
				15	4	10			
Less Binding and Books	7	3	1						
Petty Cash	5	1	1						
				12	4	2			
							3	0	8
"Notes and Queries" :—									
Balance				63	18	8			
Received, 1908				3	18	3			
							67	16	11
Hobley's "Uganda"							27	12	7
"Physical Deterioration"							8	2	8
Bibliography receipts							4	14	8
Sundries							3	16	4
							£1,293	12	2

OF GREAT BRITAIN AND IRELAND.

for the Year 1908.

PAYMENTS.	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Rent							135	0	0
Journal				311	6	9			
Less refunds	2	18	6						
	33	18	0						
				36	16	6			
							274	10	3
Advertising							10	9	6
"Man":—									
Printing and blocks				155	14	1			
Postage, etc.				16	12	0			
							172	6	1
Salaries							131	4	2
Housekeeping							20	10	0
Stamps and Parcels							49	6	5
Printing and Stationery							11	1	1
Lantern							2	18	5
Insurance							1	13	10
Travelling							3	0	0
Grant to Library							10	0	0
Huxley Medal and Lecture							1	12	6
Hobley's "Uganda":—									
Balance as per contra				27	12	7			
Received 1908				1	4	0			
							26	8	7
"Physical Deterioration":—									
Balance as per contra				8	2	8			
Received 1908					4	0			
							7	18	8
Bibliography							60	0	0
Sundries							8	2	7
Balances at Bank				359	10	5			
Cash in Hand				2	1	9			
Petty cash				5	17	11			
							367	10	1
							£1,293	12	2

We have examined the above accounts and compared them with the Books and Vouchers relating thereto, and find the same to be accurate.

(Signed) RANDALL H. PYE, WALTER W. SKEAT, } *Auditors.*

January 13*th*, 1909.

PRESIDENTIAL ADDRESS.

THE RELATION OF ANTHROPOLOGY TO CLASSICAL STUDIES.

BY PROF. WILLIAM RIDGEWAY, M.A., SC.D., F.B.A., LL.D., LITT.D.

FROM this date last year, when the Institute did me the honour to elect me as its President, I resolved to select as the subject of my address at this meeting the Relation of Anthropology to Classical Studies. Although a volume of essays, embodying a series of lectures delivered at Oxford, has recently appeared, I have determined to run the risk of seeming to imitate its title and the work. Various reasons induced me to adhere to my original intention. In the first place I had already some fifteen months ago delivered an address at the annual meeting to the Classical Association of Scotland on the relation of Archæology to Classical Studies, since printed, in which I covered a good deal of the ground dealt with in the Oxford lectures. In the second place it is the subject on which I am least incompetent to speak, since most of my own work for the last thirty years has consisted in bringing anthropological methods to bear on classical subjects.

The appearance of the Oxford essays to which I have just alluded shows that anthropology is now recognised as a powerful ally by some classical scholars. But twenty years ago this was not so. The first step in the application of the comparative method in any form to any subject connected with the ancient civilisations was taken by Sir H. S. Maine, my personal obligations to whom I can never forget. But the really first vigorous application of what may be termed the anthropological method to classical authors was made by McLennan, who, in his *Primitive Marriage,* followed up Bachofen's *Mutterrecht.* In a later essay McLennan demonstrated that there were strong traces of the former existence of the principle of descent through women in Greece, more especially at Athens, whilst in his essay on Totemism he set agoing a new group of social and religious ideas, which have flourished and fructified down to this hour, though it cannot be said that the chief riddle has yet found an Œdipus. In his essay McLennan proposed to explain that class of Greek myths which represent gods, in the guise of beasts, becoming the husbands of maidens and the ancestors of kingly families on the analogy of the American totem animals mated with women. But up to 1880, strange as it may seem, no one, not even Maine himself, had thought of applying the comparative method to Aristotle's famous account of the origin of society. In a dissertation on the *Politics of Aristotle,* published in 1882, I sought to explain the chief difficulties which had perplexed scholars in his account of the evolution of society by comparisons with institutions still surviving amongst primitive peoples. These explanations have found their way into the notes of the two chief modern editions of the Politics.

It will be observed that it was on the legal, social and religious sides that the first attempts were made in the application of the new method to the classics. As yet, no one had dreamed of instituting any comparison between the material remains of Greece and Rome and those of savage peoples. To have suggested that Greek art could ever have had an early stage comparable to that of modern savages had never entered the head of any student of classical archæology and still less of any professor of fine art. Tradition had studiously regarded everything connected with Greece and Rome, Egypt and Babylonia as standing on a completely different plane from every other culture, and the Classical, Egyptian and Oriental archæologists looked upon the cultures and arts of these ancient lands as entirely *sui generis.* Though the proverb that Rome was not built in a day had been in the mouths of men from generations, no one dreamed of applying it to the culture of Rome, and no one in dealing with the arts of Greece ever considered that she too must have had her day of small things.

In 1887 I ventured to bring to bear upon the origin of Greek coins and weights, and consequently of all coinage, the comparative method in a paper called the *Homeric Talent, its Origin and Affinities.* In that essay I tried to show that the origin of coined money amongst the Lydians, and its further evolution by the Greeks and Italians, was not to be regarded as an isolated phenomenon, but that it was completely on all fours with various stages in the evolution of primitive money from the use of all sorts of objects such as axes, and other implements, ornaments, sheep, goats, cows and slaves and their gradual translation into gold and silver equivalents when the use of these metals becomes known. In this way only, I maintained, could the evolution of Greek metallic currency be traced from the gold rings made on a fixed standard found in the shaft graves of Mycenæ, through Homeric times, when all accounts were kept in cows, though gold was passing from hand to hand in small lumps of given weight, to its culmination in the magnificent coinage of Greece, Magna Græcia, and Sicily. At the present moment and to an audience of anthropologists there seems nothing startling or alarming in this doctrine, but when it was propounded in 1887, its author had the greatest difficulty in getting it published. After a long and protracted struggle with the then editor of the *Hellenic Journal,* the paper was printed in that periodical, but in a sadly mutilated condition.

What was the cause of this repugnance to a new theory based on a wide induction ? The fact is that classical scholars and archæologists in this country were entirely given up to *a priori* methods, which gave every scope for the play of wild speculation untrammelled by any restraint of solid facts. They proposed emendations in sound texts without ever dreaming of inspecting a single manuscript of the author whose sentiments they proposed to correct. They slavishly followed their German brethren and had settled down, as already said, into a comfortable conviction that not only the culture and art of Greece and Rome stood on a different platform from all other studies, but that it might be pursued with a looseness of method which was banned in all scientific inquiries.

They further held that this culture was in the main derived from the East and Egypt, *lux ex Oriente* being their leading axiom. It was a matter of faith that the Greeks had no weight standards nor any means of weighing gold or silver, and did not employ weight in any form until they borrowed weights and weight systems from Babylonia. This event, it was supposed, only took place when they borrowed from Asia the art of coinage, which the numismatists then placed at about 600 B.C. They went still further, and although it was well known to anthropologists that even the most primitive races had standards of measure derived from the parts of the human body, such as the ell, the foot, the thumb or inch, and the finger, it was also a matter of faith for the classical archæologists that the Greek and Roman standards of measure as well as those of weight, were all derived from the Royal Babylonian cubit. Of course with regard to the theory of measure I had no difficulty in showing that measures of length were invented all the world over by primitive men, who also established for themselves measures of capacity from familiar objects of daily use, which nature herself makes of a more or less uniform size, such as hen's eggs, gourds, coco-nuts, and the joints of bamboos of a given diameter. The origin of measures of length and capacity I established in an essay on the Greek *Stadion* and in my article *Mensura* in the second edition of Smith's *Dictionary of Antiquities.*

But the theory of the origin of Greek and Roman coin weights died harder in spite of this. The Greek numismatists continued to represent the Greek as only acquiring standards of weight after 700 B.C., although I had shown that the gold rings in the shaft graves at Mycenæ, which may be placed about 1400 B.C., were made on a standard corresponding to that known as the Eubœan Attic standard of classical times. Moreover, two pairs of scales made of gold and no doubt meant for weighing gold, had been found in those very same graves, thus demonstrating that the Greeks had at that remote period a full knowledge of weighing and also possessed the weight standard which they were held only to have borrowed some seven centuries later.

The orthodox school of archæologists, when I began to write, held that all weight standards that were used in the world, no matter where found, from Ireland to China, were derived from Babylonia. The Babylonians had made, it was alleged, a scientific system entirely unconnected with anything else that had preceded it. It was thus obtained. They took the sun's apparent diameter, whatever that may mean, and that became the Royal cubit. Then this was cubed and became the Maris. One-sixth of this was taken, although they did not explain why one-sixth, and this became the Royal Talent. This was divided into sixty *Manehs* and each *maneh* into sixty shekels. Thus, then, the talent was supposed to be the first weight unit fixed. Yet investigation shows that all over the world, wherever men have discovered gold and use it, they quickly weigh it with the seeds of plants, which nature has placed as weights of great accuracy ready to hand. Thus the Incas of Peru had scales, and used seeds for weights. The West Africans used the Tacoo or Crab's eye, and the Damba, for weighing gold dust, long before any European had traded with them. The Assyrians themselves used a grain as their lowest unit, which I have shown from its weight to be a wheat grain. The wild tribes of Laos use grains of rice to weigh the gold dust from their streams, and as they value each little hoe which forms their lowest unit in a system of barter, which ranges from the hoe to the buffalo as the regular higher unit, and to the slave as the occasional higher unit, they have no difficulty in appraising in gold the value of any one of their commodities, whether slave, buffalo, earthenware jar, or piece of cloth.

By the application of this method I was enabled to show that the little *Talanton*, or weight of gold, used in Homeric Greece was simply the value in gold of a full grown cow, the ancient unit of barter and account, and that the Greek *stater*, the gold unit of later days, was nothing more than this primitive gold ox-unit. So far, then, from the Greeks starting with the Babylonian heavy talent as their unit, they had as their smallest weight (on no less authority than that of Theophrastus) the barley corn. In other words, they were just in the same position as ourselves, for our own Troy grain, as I have shown, is only the barley corn. The troy pound, on which our whole weight system depends, was constructed in 1760 from a comparison of the various troy pounds then in use in different centres. But these were old Tower pounds, which from the time of Henry VIII. had continued to contain 5760 grains instead of 7840, as had been the case under his predecessors. By the statute of Henry VII. it was enacted that all the weights of the kingdom should be based on the penny sterling, and that "the penny sterling or pennyweight should be of the weight of thirty-two grains of wheat, dry and taken out of the midst of the ear of wheat after the ancient laws of the realm." This statute was really but a re-enactment of laws in use since Anglo-Saxon times. Now an experiment showed me that four grains of wheat regularly equal three grains of barley, and as I found in an ancient Roman metrology that four grains of wheat equal three grains of barley, and as four to three is the relation between the wheat grains of Henry VII. and the troy grain introduced from France, there can be no doubt that the troy grain is the barley corn, which we know was used as well as the wheat grain in certain districts of the Roman empire, as well as in Greece.

Not only was the value of the full grown cow in gold the Greek standard, but it was also that of the ancient Egyptians, whose oldest gold unit is termed "ox-gold," and so also was it over all Asia and Europe.

Investigation showed that the value in gold of a full grown cow during a period of one thousand years from India to Ireland only varied from 140 to 120 troy grains of gold. This has for us a peculiar significance since our own gold unit, the sovereign, weighs 120¼ grains. It is really descended from the ancient gold unit based upon the cow, the primitive chief unit amongst all cattle-keeping communities in all periods of the world.

All races who have weight standards of their own, and not a few there be, have arrived at them, like the wild tribes of Laos and the West African negroes, by weighing gold dust against natural seeds. There is therefore no reason to doubt that the inhabitants of Greece learned to weigh gold for themselves by natural seeds, such as barley, and did not borrow the art of weighing from Asia, as held by the archæologists.

But this was not all. The numismatists had taken up the position that all the types on Greek coins were essentially religious. I need hardly say that this forced them into the direst straits, to explain, for instance, the victorious horse and jockey which Philip of Macedon, as we are told by Plutarch, placed on some of his coins to commemorate the victory of his race-horse at Olympia. No less difficulty had they in explaining the types of a mule-car and hare found on the coins of these two hapless sister communities, Rhegium and Messana, though Aristotle himself is our witness that Anaxilas, the despot of Rhegium, who had also captured Messana, placed these types on his coins to commemorate his victory with the mule-car at Olympia in 494 B.C., and his introduction of the hare for the first time into Sicily. Much as my essay was assailed, I was not deterred from working out the views there adumbrated. In 1892 I published my *Origin of Metallic Currency and Weight Standard*, in which I fully developed the anthropological method of dealing with the problem of the origin of weights of coinage and of coin types. I had already converted some political economists and a few classical scholars, but on the appearance of my book the conversion of the historians of trade and money was completed, and ever since, both in Germany and in this country, the soundness of the method has been recognised by scientific students of history. Yet there are still some Greek numismatists in this country who refuse to believe that some Greek coin types, such as the coins of Olbia in the shape of fish, and inscribed ΘΥ, and those of Cyzicus and Gades, which bear the figure of a tunny fish, can refer to the fisheries for which both those towns are famous in ancient literature. Still less will they believe that the tunny fish was ever a unit of barter or account in those towns, as the dried cod-fish, still the badge of Iceland, was and is still the unit of exchange in that island, and as the beaver, still seen on certain coins and stamps of Canada, represents the beaver whose skin formed, down to our time, the unit of account throughout all the Hudson Bay Company's territory. Nor will they believe that when gold or silver coins were struck there was any relation between the old barter unit and the new silver, although we know from good ancient authority that when Solon struck the first silver drachm at Athens, he equated his new drachm to the sheep and the goat, the old units of account. These, down to his day, had continued, along with the cow, to be the unit of account in the laws of Draco, the old Athenian legislator.

It will thus be seen how difficult it is to get the old school of archæologists weaned from their love of *a priori* speculation and to yield obedience to the inductive method of anthropology, and at the same time to the voice of history. Some of the old school, however, have long since modified their position, and whilst abusing the author have not scrupled to adopt his ideas.

If the classical archæologists held that the people beyond the Alps had not even conceived the idea of measuring by the use of their own fingers, thumbs, arms and feet, still more unlikely was it that they should think it possible that there were elements, not only in the early population of Greece but in its greatest literature and art, which had come from beyond the Alps and from the dark aisles of the Hercynian forest.

When Schliemann, at Mycenæ, lifted the veil from a long-buried civilisation, he opened a new era in classical studies. The Germans, from the time of Wolff in 1788, followed by almost every scholar in this country, held that the works of Homer were based upon no material original, and that they sprung almost purely from the frenzied imagination of the divine poet or poets. Scholars, with scarce an exception, were rooted in the conviction that Achilles, Agamemnon and Hector were only forms of the solar myth, and that such peoples as the long-haired Acheans have never existed save in the fancy of the rhapsodists. To the received theory Schliemann's discoveries dealt a fatal blow. For a while fruitless efforts were made by some of the votaries of the ancient fetish to show that the relics laid bare at Mycenæ were those of the Byzantine period or that they were the work of Goths in the fourth or fifth century of our era. At the present day it is hard to conceive how any archæologist could maintain that objects, entirely of a Bronze Age, belonged to centuries long after Christ. But the classical archæologists had no scientific knowledge of their own department and were absolutely ignorant of all other fields of anthropological inquiry. But the struggle was in vain. The facts were too stubborn. At Mycenæ and Tiryns, round which centred, not only the great epics, but some of the greatest masterpieces of Greek tragedy, were discovered palaces and tombs replete with marvellous gold ornaments, bronze swords, inlaid daggers, pottery of beautiful fabric and graceful shape, engraved gems, and innumerable other objects. All showed that on these sites had flourished a people in much the same culture as that portrayed in the Homeric poems.

It was but natural that Schliemann and his followers should assume that he had discovered the actual remains of Agamemnon, king of men, and his Acheans. Henceforth, with hardly an exception, the Mycenean culture was regarded as Achean. But troubles were ahead. Some of the more intelligent remarked that whilst at Mycenæ and in other similar sites only bronze weapons were found, and that there was no trace of iron, the Homeric poems reveal an age when iron was in use for all sorts of cutting implements, knives, arrows, axes, swords, and for shoeing even the plough. Since 1788 the critics had been engaged in dissecting the Iliad into what were supposed to be its original component elements out of which some rhapsodist or rhapsodists had patched up the great poem at a later time. The philologists had tried to detect older and younger strata of language, but they fell out amongst themselves and the linguistic test broke down. Then a comparison was made of the passages in which iron appeared, with the stratification of the critics, but unfortunately for the latter iron was found to appear more frequently in those passages which the critics considered the most ancient.

Then arose Dr. Reichel, who boldly made a Procrustean bed of the Mycenean culture, and ruthlessly chopped away every passage in which there was mention of iron, hauberks, bronze greaves, in short anything not found at Mycenæ. In this country Reichel's method was hailed with acclamation by almost all leading scholars, whilst not a few of them at once proceeded to proclaim it from the housetops as the latest gospel from Germany. I ventured to oppose the method as being utterly unscientific. I pointed out that the Mycenean age corresponded to the Bronze Age which we know so well in other parts of Europe and elsewhere, whilst the culture of the Homeric poems plainly corresponded to the Early Iron Age of central Europe, commonly called the Hallstatt period, from the famous cemetery of that name in the Austrian Tyrol.

In 1895 I offered a paper embodying these views to the editors of the *Hellenic Journal*, but it was refused by them. The late Sir R. C. Jebb, then President of the Society, on reading my paper, came to the conclusion that I had a good *prima facie* case, and through his action the essay, though sadly maimed and abbreviated, was allowed to see the light.

At the British Association in 1896 this paper was discussed and also another in which I had attempted a further stage in my investigations. In the latter I tried to show that iron had first been used as a metal in central Europe, and that it had thence made its way down into Greece along with the Acheans, and that it had not been introduced into Europe from Africa or Asia, as hitherto universally held. My views at once obtained the support of leading anthropologists, such as Sir John Evans, Dr. Munro, Professor Flinders Petrie, and S. Reinach. It may be worth mentioning as showing the attitude at that time of most classical scholars to the new method, that in the autumn of that year the Council of the Hellenic Society passed a resolution approving of the action of their editors in reference to my paper and condemnatory of my writings. Finally, in my *Early Age of Greece*, published in 1901, I expanded and added to my arguments, showing that the Homeric Acheans with their great stature and flowing fair hair were a tribe from upper Europe, the home of tall fair men. As Greek tradition itself declared, they had passed into Greece somewhere about 1400 B.C., and brought with them the use of iron, for cutting implements, the round shield with the boss known in Homer alongside of the oblong shield of the older population of Greece, the use of metal helmets, metal greaves, and hauberks, strengthened with metal plates, and the practice of cremating the dead. By a series of inductions I was able to show that all these characteristics of the Homeric Acheans were features of the culture of the Early Iron Age of central Europe; that not only iron, but the alloy of copper called bronze, was the discovery of the central European peoples, and that the brooch, which is unknown in the shaft graves of Mycenæ, but is a characteristic of Homeric dress, was brought down into Greece by the Acheans also. As hitherto it had been assumed that the brooch was invented in Greece, and had passed up into central Europe, it had been used as the basis for the chronology of the Bronze and Early Iron Age of all Italy, central and upper Europe, by Montelius and every one else. The change in the place of origin of the brooch which I was able to prove had thus a far more important bearing than might be supposed at first sight. So far from all the culture of Italy, central and upper Europe, in which the brooch appeared, being later than certain brooches found, not in the shaft graves, but in the lower town at Mycenæ, and which were dated not earlier than 1400 B.C., it turned out that, as far older forms than these were to be found in northern Italy, the beginnings of the brooch went back long beyond 1400 B.C. in central Europe. Consequently the dates of the late Bronze Age and early Iron Age had to be pushed back by many centuries.

Besides this I was able to point out that the peculiar style of decoration, which became universal in Greece after the Mycenean culture had faded away, and which is commonly termed the Geometric or Dipylon, was really identical with the style of decoration of the Danubian region and central Europe, and that it too had come into Greece with the Acheans. My old critics now admit that iron, bronze, the round shield, the brooch, the geometric style, and the practice of cremation passed into Greece from central Europe.

Later, I have been able to show that two of the chief characteristics of the temple architecture of Classical Greece—the gable and the running frieze—are due to the Acheans who brought with them the gabled house of upper Europe, such as those of Achilles and Odysseus mentioned in Homer, whilst the running frieze is simply an adaptation to purposes of architecture of the characteristic processions of men and animals found in the art of central Europe.

Wolff and his followers had urged as a chief argument against the early date of the Iliad and Odyssey the difficulty of handing down poems of such length without the art of writing. True, it was admitted that the *σήματα λυγρά* inscribed by Proetus, King of Tiryns, in a folded tablet and brought by Bellerophon to the King of Lycia, who was plainly able to read their message, were some sort of rude picture writing. But such rude symbols, it was contended, were very far removed from writing. The brilliant discovery of my friend Dr. A. J. Evans has given the quietus to such arguments for ever. Having noticed on "Mycenean" gems certain symbols not unlike those of the Cypriote syllabary, he was led to the conclusion that the symbols on the gems were really a form of writing, and his discoveries at Cnossus have now shown that pictographic and linear scripts were in common use in the Ægean for several thousand years before our era.

On the other hand, there are lingering survivals of Reichelism, as in the case of Professor G. Murray, who would still cut out as late from the Iliad every mention of a hauberk, thinking that such were only added in later times by Ionian poets. The same writer, so far from regarding the great stature and long fair hair of the Acheans as a mark of race, considers that they wore their hair long because they were under a vow of chastity till they had captured Troy. There is no mention of such a vow in either Iliad or Odyssey, whilst the great quarrel in the Iliad is for the possession of Briseis, the concubine of Achilles, taken from him by Agamemnon. Agamemnon was certainly under no vow of chastity, for he has to swear a solemn oath to Achilles that during the time that Briseis was in his tent he had not treated her as his spouse, an entirely superfluous act if he had been under vows of celibacy. Moreover, when Achilles recovers Briseis, he and she live together in his hut as man and wife (Iliad, xxiv). Professor Murray, who is one of the contributors to the Oxford volume of Essays, cannot be said to have grasped the scientific method, which is the essence of the new anthropology. He brings to bear on what are really anthropological problems the *a priori* method so beloved by the pure classical scholars, who are ready to speculate about things Greek and Roman in a way that no sane person would think of applying to the Italians and Italian culture of mediæval times. But we must always expect lingerers and survivals.

War still rages round the early period of Greece, but in spite of this it is already patent that the encumbrances of pedantry are falling away from Homer, and that before long *a priori* discussions on the meaning of Homeric terms and the genuineness of Homeric passages will have given way to a few precise facts derived from material remains and the traditions of the ancients themselves—an inestimable blessing for those who wish to drink deep from that pure well of ancient Greek too long defiled by the wranglings of the verbalists.

But it is not only in Homeric studies that anthropology can render service to the classical scholar. In the Greek tragedy there is also scope for its application. Down to recent years it has been universally held that Greek tragedy arose in the worship of Dionysus, the Thracian god of wine, and that it was at the vintage festivals that tragedies were always performed. But now we know better. The festivals of Dionysus all fall in winter and spring, not in the vintage season. Some four years ago I pointed out that tragedy originated in Greece long before the Thracian god Dionysus ever was worshipped there, and that in Greece, in India, in Thibet, in China, in the Malay peninsula, and wherever there is a native tragedy, it has originated in the worship and propitiation of the dead. Such too is the origin of the early mediæval Christian drama, as for instance the passion plays still represented by that periodically performed at Ober Ammergau.

Amongst the great masterpieces of Greek tragedy at least one old riddle has been solved by the anthropological method. In the *Choephorae* of Æschylus, Electra, daughter of Agamemnon, on visiting her father's tomb arrives at the conclusion that her long lost brother Orestes has come home, because she finds on it a lock of hair like her own, and because the footprints in the soft clay near the tomb resemble the contours of her own feet. This of course was a great crux to the older scholars. But I pointed out that as the royal Achean house was fair-haired, dwelling amidst subjects of the dark aboriginal race, Electra's inference was thoroughly sound. Her brother and she had fair hair, and the shape of the northern foot differed from that of the small dark race of the south. This view has now been adopted by Professor Tucker in his well known edition of the *Choephorae.*

As I have already indicated, classical learning in this country by its petty verbalism, its pedantry and its indifference to scientific methods, has roused a great reaction against its continuing to form an essential part of our higher education. The assault, on Greek in particular, which has been made in recent years, is wholly due to the classical scholars themselves. The success of classical studies in the future will depend altogether on how Literature, Verbalism and Anthropology are bound up together.

The right view, I venture to think, is, that language is the key by which the student gains admission into that treasure-house, in which the true kings of the ancient world—the poets, the philosophers, and the historians—have left us stores of untold wealth. Anthropology comes, and with her lamp illumines for the searcher many crevices and corners of that treasury, and reveals to him many beautiful and priceless gems, of which he would otherwise never have suspected the existence. It is on the properly regulated interrelations of these three departments that success in classical studies must depend. What, then, ought to be our ideal in practical life of the relations of anthropology to classical studies under modern conditions? As it is the literature of Greece and Rome which is the eternal element, and as no classical archæology can have any real value unless it is based upon a sound knowledge of the literature and language, we can at once lay down that anthropology in our educational system, both at school and in the university, must be regarded as ancillary to the study of the great writers of antiquity.

Thus conceived and thus treated, archæology and anthropology become invaluable servants, for they enable us to grasp the meaning of the ancient writers and comprehend allusions, otherwise obscure, to enhance our enjoyment of the scenes which they describe, and to realise, in a way impossible to the mere pedant the conditions under which the ancients lived and moved and had their being.

It will be admitted that some knowledge of mediæval archæology and habits and customs is essential for the proper understanding of Shakespeare and Chaucer, who, after all, wrote but a few centuries ago, and that, too, in our own language, and under conditions not very unlike our own. How much more necessary is it to make use of every means at our disposal to enable us to place ourselves at the standpoint of the creators of those literatures which grew up two thousand years and more ago in southern lands, and in environments very different from those in which we ourselves live. It is infinitely harder for us to place ourselves at the standpoint of an Athenian of the age of Pericles than at that of an Englishman in the reign of Elizabeth. Hence in order to appreciate to the full the literature which mirrors the life and thought of the time, we must spare no pains in familiarising ourselves with the way in which the Greeks and Romans looked at life and death, and with the objects with which they were surrounded, as well in death as in life. Furthermore, the end of such studies is not merely the elucidation of obscure passages in classical authors, but what is far more important—the training of students to project themselves out of their own narrow surroundings and to think, if they possibly can, as people did in the time of Shakespeare and Chaucer. Still better is it if they can be taught to realize the attitude, towards life and its problems, of the Greeks in the age of Pericles and the Romans of the time of Augustus.

It is of especial importance in the education of those who are in many cases to be brought into close contact with men of other race, as Indian civilians Colonial administrators, or as traders and missionaries, to learn to place themselves at the standpoint of peoples reared in climates and countries very different from ours, and whose way of looking at life, society, and the problems of religion, are totally alien from ours. Only men who have this power, either by nature or by training, can become sympathetic and wise rulers and officials, whilst the same quality is no less essential for the success of the missionary and the merchant.

When we pass to the literature of the classical period, the same method may be applied with equal advantage. Is the student reading Herodotus or Thucydides replete with the marshalling of hosts, the tramp of armies, and battles by sea and land, and the siege and fall of fortresses ? If he is to appreciate what he reads, he must have some knowledge of the warfare of the period, and the equipment and weapons of the warriors. But this is not all. Herodotus is full of the most interesting folklore. Herodotus lays bare to us the religious ideas and customs, not merely of the Greeks but of many other races. His statements were long considered to be but falsehoods, and unworthy of credence by men of sound judgment. It is not merely material objects, such as great temples and the statues that adorned them, the study of which gives new life and a broader basis to the study of the classics. Anthropology has made great advances in the last quarter of a century, and we now know as ascertained facts many phases of society—forms of kinship, marriage and inheritance,—not dreamed of fifty years ago. Through lack of such knowledge, classical scholars of the greatest eminence have fallen into errors, which in the light of the present day strike us as almost ludicrous. A single example will suffice. Grote has a fine passage in which he speaks in glowing terms of the devotion to the State and the self-abnegation of the Spartan husband, who, in the desire that stalwart sons should be produced for Sparta, did not hesitate to share his wife with another. Yet we now know so far from this degrading practice being the outcome of a lofty patriotism, it is simply an example of two well known forms of polyandry, both the wider form and the more restricted type, commonly termed the Tibetan, wherein several brothers share one wife.

The Greek and Roman writers are full of allusions to social habits, manners and customs, which have perplexed the older scholars, at the same time giving them opportunity for much wild speculation. Yet many of these, when studied in the light of anthropological research, are capable of simple explanations, to be understanded of all.

But it is not merely for the elucidation and defence of passages in ancient writers that the results of anthropology are most important. Modern discoveries are revolutionising our attitude towards the ancient historians themselves. It has been too long the fashion for those who thought that they were following Niebuhr, but who really did not understand his method, to cavil at and doubt the statements of Greek and Roman historians. The easiest way by which a man could earn for himself the reputation of a keen critic with great speculative insight was to declare that Thucydides had invented the whole story of the siege of Plataea, or that Herodotus had no warrant, save his own imagination, for his tale that at Naucratis in Egypt there was a flourishing Greek colony with a temple in honour of the Milesian Apollo; yet within a year after the latter charge had been made in a certain edition of Herodotus, Professor Flinders Petrie discovered the site of Naucratis, laid bare its streets and found the temple of Apollo, as was proved by the dedicatory inscriptions to that god incised on numerous objects. But valuable as are the services of the various branches of anthropology in rehabilitating the credibility of Herodotus, Pausanias, and others, she is doing a far greater work. Behind the rehabilitation of this or that historian there lies a far more important principle.

When we find case after case, in which the old writers are proved to be trustworthy in their statements respecting monuments, religious and social institutions, our whole moral attitude is changed, and there is little doubt that amongst the younger generation of scholars the influence of anthropology is silently and steadily lessening that pettifogging spirit of scepticism which thinks that the only way in which a man of ability can show that ability, is to bring allegations of deliberate invention, or, at least, of grave perversion of facts against this or that author.

Already anthropology is making itself widely felt in the study of history, and we may confidently look forward to its increasing influence year by year, as fresh discoveries continually keep confirming the accuracy of the literary traditions. Hitherto I have been speaking of Greece. If we turn to Roman history, the circumstances are just the same. Dionysius of Halicarnassus, following the records of older writers now lost, has told us the story of the early inhabitants of upper and central Italy, but his statements were and still are generally discredited by what is called the pure historian.

Dionysius tells us that the oldest inhabitants, whom he terms the Aborigines, were being gradually conquered or driven back into the Apennines by the Siculi and Umbrians, when the Greeks first planted colonies in central Italy. The Aborigines helped the Greeks against their great enemies, the Umbrians and the

Siculans, and for a time apparently the combination of Greeks and Aborigines kept the Umbrians in check. Then later came Tyrrhenians or Etruscans from Lydia, in Asia Minor. They seem to have been welcomed by the Greeks to aid them against the ever advancing Umbrian tribes, and presently the powerful Etruscan confederacy captured no less than 300 Umbrian towns, and that people only maintained their independence in the region known as Umbria in Roman times.

About 400 B.C., the Gauls descended in force from the Alps and dealt a blow to the Etruscan power from which it never recovered. They advanced to the Tiber, defeated the Romans on the Allia, and captured Rome herself. Bought off by Roman gold they retired northward, but henceforward they occupied a great part of north Italy extending as far south as Bononia (Bologna) and Sena Gallica (Sinigaglia). Finally, the Romans expelled or conquered the Gauls.

Modern investigations, for instance at Bologna, show us the successive strata. The remains of the Roman period are easily identified by coins and inscriptions.

Next come graves with the remains of large men, associated with long iron swords, and with accoutrements and a style of ornament familiar on Cæsar's battlefields, where he overthrew the Helvetii and Boii, and in the graves of Gaulish chiefs in the valleys of the Marne and the Seine. There can be no doubt that we have here the relics of the Gauls who had occupied Bononia.

Then come the Etruscan tombs, easily distinguished by their peculiar form, the dead being laid at full length and never burned. Then comes the stratum belonging to the Early Iron Age, containing relics similar to those which are found over all Italy wherever the Umbrian tribes settled, and there can be no doubt that these are the relics of the Umbrians. Finally, we meet, all over upper Italy, especially in the Po valley, in Latium, and as far south as Tarentum, the remains of a culture known as the Terramare. This goes back far into the Neolithic period and continues through the Copper and Early Bronze Periods.

It is chiefly found in lake-dwellings in the plains of the Po, and the region occupied by Ligurian tribes, such as the Libui, in historical times. There can be little doubt then that we have, in the earliest culture, the remains of the Aborigines of Dionysius, who were driven into the Apennines by the Umbro-Siculan tribes. Now, when we learn from Philistus of Syracuse, that the Ligyes or Ligurians occupied all central Italy, both north and south of the Tiber, including the site of Rome, we are justified in believing that the Aborigines who dwelt in Latium, as well as in upper Italy, were Ligurians. What was Mommsen's attitude towards the traditions contained in Dionysius? He totally disregarded all statements about the Aborigines and held that the legend that the Tyrrhenians had come from Lydia was a pure invention. On the strength of Corssen's guess that the name Rasenna, found only once in literature (and that too in Dionysius, where it is probably a mistake for Trasenna) was identical with Rhaeti, he regarded the Etruscans as Rhaetians from the Alps. But we now know the cemeteries of the ancient Rhaetians in the Alps, and, as might have been expected, they burnt their dead, and disposed of their ashes in the same way as did their kinsfolk the Umbrians, whereas we have just seen that the Etruscans never burned their dead.

Nor was Mommsen more felicitous in his attitude towards early Roman tradition. It was held by the Romans themselves, that the Patricians differed essentially in race from the Plebeians. But Mommsen and his followers in this country would have none of it. He simply laid it down that the Romans were a homogeneous people.

In 1902, I ventured to give some reasons for believing that the ancient traditions were right, and that the dissensions between Patricians and Plebeians were far more deeply rooted than in a mere struggle between capital and labour. The excavations of Boni in the Roman Forum have since shown two different kinds of graves, the one, cremation, and the other inhumation burials. This most important archæological fact taken in conjunction with the different kinds of marriage, the one Patrician, the other Plebeian, the different armature of the original First Classis, consisting wholly of Patricians, as compared with that of the other Classes, into which Plebeians were enrolled, as well as the fact that the three chief Flamines who must be Patricians ministered to Sabine deities, all combine to show that the Patricians were Sabines, the Plebeians the aboriginal population.

Hitherto I have only spoken of the obligations of literature to anthropology, yet I am not unmindful of the equally great obligations of anthropology to literature. The older scholars, very properly, viewed with suspicion and contempt the lucubrations of the *dilettanti*, who wrote learned dissertations to prove all sorts of wild theories respecting the history and the uses of any chance object that fell into their hands, or the meaning and origin of any ceremony and custom which they came across, without any reference to documentary evidence. The archæological side of anthropology could make no real progress as long as she was divorced from literary records. Even in reference to objects not more than two centuries out of use there can be no certainty, unless we resort to the literature of the time, and the same holds true for many objects, customs and ceremonies which have been in use amongst primitive races, now almost obliterated, if not wholly extinct, or whose primitive customs have now completely disappeared. As soon as we find a good passage in some old writer, the relic which has long baffled us is at once explained. Mere collections of antiquities and ethnological curios, not illustrated by historical or contemporary documents, are robbed of a chief part of their value, unless they be works of art, which are beautiful and precious in themselves.

I shall illustrate my meaning by one or two examples. Two visitors wander through some great armoury gazing at the suits of tarnished mail and at the weapons rusting on the walls, never more to be taken down and sharpened by the soldier in all the joyance of war. For the uncultured sightseer these relics have neither life nor voice. At most they only rouse a momentary curiosity, as the label informs him that this sword or that breastplate belonged to some princely personage. But for the other who knows his Froissart or his Joinville or rugged old Villehardouin, spectral hands grasp once more their mighty swords and the clang of steel is heard on casque and shield. Or take an example from a more remote epoch. Many of you have seen in museums the remains from the lake-dwellings, so common in Switzerland and which are similar to the crannogs common in Ireland and Scotland, and occasionally found in England, as, for instance, the lake village at Glastonbury. As you stray through such a museum, the eye wanders over the varied mass of implements of stone, bone and horn, broken weapons, and strange and curious tools and ornaments. You seem to be walking through a valley of dry bones, and you give utterance to the cry, "Can these dry bones live?" Yes, they can be made to live for you once more by the revivifying touch of literature. You all remember the description given by Herodotus (v, 13) of the pile-dwellers of Lake Prasias in Thrace, who planted strong piles in the lake, the whole community joining in the task, how they built on these wooden platforms, approached by a long wooden bridge or gangway from the shore; how they raised their frail cabins on these platforms, and how they arranged for the renewal of the piles by the rule that for each wife a man married he must drive in three piles. Take this passage and read it as you gaze at the broken and decayed relics from a Swiss pile-dwelling or an Irish crannog. At once there is "a noise and shaking and the bones come together, bone to his bone; the sinews, too, come up on them, and then they are once more clothed in flesh, and the skin grows over them." Finally, the very breath of life seems to be infused into the ancient owners and they rise up before us as in life.

This last example will suffice to show what a debt anthropology owes to literature, and at the same time to demonstrate what anthropology can do for her partner. No story of the old Halicarnassian excited more scepticism than his narrative of the brave lake-dwellers of Prasias who defied successfully the lieutenant of Xerxes in their watery fastness. But that is all changed now. The discovery of pile-dwellings in many regions of Europe, including the Balkan itself, has demonstrated that at no very distant epoch a large proportion of the inhabitants of Europe lived in the fashion described by Herodotus.

There is really no antagonism between Literature and Anthropology. Each is absolutely necessary to the other, if both are to be studied as they ought. But as Literature is the highest exposition of the spiritual side of Man, whilst Anthropology is chiefly, though by no means entirely, concerned with his material side, and as things spiritual must stand above things material, so must Literature have the foremost place, whilst Linguistic also must bow to her sovereignty. On the proper subordination of Linguistic and Anthropology to Literature must depend the success of classical studies. I may illustrate my meaning by an allegory borrowed from Plato, when, in the *Phædrus*, he describes the tripartite nature of the soul. First, there is the Intellectual element seated in the head; secondly, the Passionate, whose seat is in the breast; and finally, the

Appetitive, seated in the abdominal region. He likens these three to a charioteer driving a pair of steeds along the plain. As long as the Intellectual, as charioteer, keeps control of his two steeds, the Passionate and the Appetitive, all goes well. But as surely as one or the other turns restive, disaster ensues, and one more is added to the many wrecks that already strew the plain. So, too, is it with classical studies. As long as Literature keeps under due control her two steeds, Anthropology and Language, all goes well. But so surely as the passionate impulse of the archæologist or anthropologist leads him to disregard the monitions of his charioteer, or the morbid appetite of the verbalist for picking holes in sound texts refuses to be curbed, disaster must inevitably result for classical studies. To take another metaphor, if these three elements be properly combined and interwoven, they will form a threefold cord which is not quickly broken; nay, not a cord, but a stout cable, which for generations to come will give safe mooring to classical studies in every system of higher education.

SOME TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT, BRITISH GUIANA.

(PART I.)

BY WALTER E. ROTH, Local Correspondent of the Royal Anthropological Institute.

[WITH PLATES I–X.]

THE Pomeroon District comprises the area of country drained by the Pomeroon and Moruca Rivers, two comparatively small streams emptying themselves into the Atlantic immediately to the north of Essequibo river. In addition to a negro and Creole population it is occupied by a large number of Arawaks, a smaller proportion of Caribs, a fair sprinkling of Warraus and a few Akawaios. The following notes have been prepared as the result of investigations amongst these Indians.

With regard to the identification of any plants, etc., that may be mentioned, I have so far not been able to check the scientific names, but give them here on the authority of Im Thurn.

The three subjects I propose discussing in this paper are the procedures adopted in preparing the strands for plaiting, and their manufacture into a cassava-squeezer and Arawak fan respectively. I have had to specialise the latter, because there is a Warrau fan, plaited not only with different material, but on an entirely distinct model.

1. THE SPLITTING OF THE STRAND.

Astrocaryum tucumoides, the *akko-yuro* of the Arawaks, the local "pimpler" palm. The leaf, as yet unopened, is cut off and the septa pulled away from above down, one by one. Each septum is stuck in its long axis at about the middle with a knife-blade which is then run up to the apex, the basal part of the septum being split by separating with the hands. The strands so formed shrink considerably and hence can only be satisfactorily worked at in the early mornings when the atmosphere is still damp; if plaited when too dry, they slip one from the other. For similar reasons, the leaf, as yet unopened, once removed from the tree, can only be kept for a few days, and then in the cool shade, to be of any use. Each strand is of course not of uniform width, but diminishes from butt (proximal) to apex (distal). Used for making fans.

Carludovica plumierii, the *mamúri* of the Arawaks. Suitable lengths of the aerial stems having been cut, they are soaked in water continuously for as long as three weeks. At the end of this period, the outer bark is scraped off with a knife and the stem split, according to its size, into two, three, or four portions, which are plano-convex in section (Plate I, Fig. 1). The remaining innermost portions of the stem can also be split again for use, but such strips are not so strong as those first removed. In this district it is certainly invariably split before use for certain baskets.

Ischnosiphon sp., the *itiriti* of the Arawaks, *mukkru* of the Creoles, etc. The stems of this reed, reaching to a length of 9 or 10 feet, can be used immediately after cutting, but may keep for a couple of weeks and more, provided they are in a cool shade: exposure to the sun dries up and spoils them. When required to be put to use, the stem is first of all scraped of its outer green cortex, and then may be stained with certain black, red, or other dyes: the outer green cortex may, however, be left on the strand in the manufacture of cassava-squeezers for Indian domestic use, and of crab-quakes (*i.e.*, baskets for carrying crabs). After nicking a ring about ½-inch from its extremity right round, the stem is split down cross-wise,—the four primary splits—to a depth of about 7 or 8 inches, and the pith more or less removed from below up, and each quadrant divided again by secondary splits (Plate I, Fig. 2, *a*, *b*, *c*). After removing some more pith (*d*, *e*), the four primary splits are extended throughout the length of the stem by gradually and carefully separating them with the hands held laterally (Plate I, Fig. 3). The secondary split in each quadrant is next extended in similar fashion, with the result that, from each *itiriti* or *mukkru*, eight strands are derived. If an unusually large stem, the Warraus, as well as the Arawaks, occasionally may split each quadrant into three, so as to derive twelve, instead of eight strands, but under these circumstances they are said never to split evenly, and the procedure is not orthodox. Where the circular nick has been made in each of these eight strands, the knife (Plate I, Fig. 4), slices downwards in such a way as to separate an outer from an inner (more pithy) portion, which portions are next split apart by using the inner side of the nail of the left fore-finger as a wedge, and gradually, but firmly, pulling on the inner of the two portions with the right hand (Plate I, Fig. 5). The nail of an expert basket-maker, etc., is thus often observed to be chronically damaged. The outer strand is finished off ready for use by scraping its edges, not its surface, firmly and slowly over a knife-blade (Plate I, Fig. 6), until the required width is produced, and in its finished state is called *itiriti dabusha* (*i.e.*, scraped, cleaned). Employed for cassava-squeezers, pegalls, sifters, certain baskets, etc.

2. THE CASSAVA-SQUEEZER.

Terms.—The Arawak Indians differentiate the component parts of a cassava-squeezer (Plate II, Fig. 1), into head (*a*), mouth (*b*), body (*c*), and ankle (*d*). These terms I propose utilising, with the modification of the last-mentioned into an ankle-ring, at the same time introducing a new element, the leg (*e*), between it and the body proper. For technical purposes the head (Plate II, Fig. 6) consists of a collar (*a*), through which the article is hung, and neck (*b*), while the body may be regarded as constructed of a shoulder (Plate II, Fig. 6, *c*), shoulder-girdle (Plate II, Figs. 9, 10, 11, *a*), body proper (*b*), and hip-girdle (*c*), and it is on these lines that the manufacture of the squeezer as a whole will be described.

Nomenclature.—The names for a cassava-squeezer are: *yuro* (Arawak), *aruhuba* (Warrau), *matapi* (? Carib). The Arawak terms for the different parts are: *yuro-(t)ishi* (head), *yuro-(to)noroko* (mouth), *yuro-(ti)firo* (body), and *yuro-(to)toro* (ankle-ring), but when the ankle-ring is made all in the one piece with the four tassels tucked inwards—the orthodox way—it is spoken of as the *totoro-ado.*

The cassava-squeezer is only made by men, and appears to have been adopted within recent times by the Arawaks as a substitute for the cone-shaped basket which is now rarely to be met.

Foundation.—A commencement is made by plaiting at their centre a set of *itiriti* strands into another series laid at right angles. As often as not, with a view perhaps to bringing out the pattern more distinctly or for other reasons, the elements of one set are laid on their outer surfaces, those of the other on their inner The staining of the strands is not adopted for squeezers destined for domestic use. The plaiting process consists in passing each strand alternately under and over a set of three, each such strand at the point of under- and overlapping being always in advance of the one immediately preceding it, to the extent of its own width. The resulting stepping-stone arrangement is seen in Plate II, Fig. 2, where the squeezer is being manufactured on a foundation of sixteen strands, nine of which are placed horizontally and seven vertically. But in the larger varieties, twenty-four, twenty-eight, or thirty-two strands may be employed in the foundation, and under such circumstances there will be respectively thirteen, fifteen and seventeen placed horizontally, with eleven, thirteen, and fifteen vertically. Furthermore, for the larger specimens, which measure, on the stretch, well over 6 feet, the *itiriti* strands, which are continuous throughout the whole extent of the article, may not prove sufficiently long: in these cases a commencement is made by superposing each two strands to the extent of about 6 inches and plaiting them at their centres of superposition as if they together constituted but one. Another advantage of this "doubling" process is that it affords the proportionately extra strength now required.

Collar.—Once completed, the rectangular foundation is turned round on to its diagonal axis, so as to represent more or less the conventional diamond (Plate II, Fig. 3). The strands projecting from the upper and lower portions of one side of this diamond are next plaited into one another in such a manner that, as each successive strand reaches the lines, which will ultimately limit the upper and lower edges of the collar now in the course of formation, it is bent backwards, outwards and downwards at the former limit, backwards, outwards and upwards at the latter. More than this, subsequently to the bending, each successive strand passes behind two others before it rejoins the plait. The plait is continued to form this band until such time as three strands alone remain at its lower outer corner (Plate II, Fig. 4). Occasionally, during the bending process, each strand may pass behind three others; but four free ones will then have to be left at the lower corner. Half the collar being now finished, it is turned on its other side, and the remaining half completed in similar fashion.

The two lateral edges of the collar, which is bent on itself into more or less of a ring, are then plaited together and constitute the neck (Plate II, Figs. 5, 6, *b*).

Body.—To form the shoulder (Plate II, Figs. 5, 6, *c*), additional strands placed parallel with the free side of the collar just completed are plaited into those stretching therefrom, the former being ultimately worked in amongst themselves by the bending process (already described) upon reaching the limits of what the Indians call the mouth. When finished, the shoulder forms with the lower half of the collar a triangular surface with its vertex the scapular point (*b*) downwards.

The number of additional strands inserted for the manufacture of the shoulder may be the same as that of those employed in the foundation (*e.g.* 9 + 7 = 16 in the present instance), any extra being put in with the view, not only of increasing the capacity of the future body, but also of insuring that the total number—foundation, additional, and extra—together constitute some multiple of three. These essentials may be tabulated as follows:—

Foundation.	Additional.	Extra.	Total.	Approximate number of stems used.
16	16	1 (or 4)	33	4
20	20	2 (or 5)	42	5
24	24	0 (or 3)	48	6
28	28	1 (or 4)	57	7
32	32	2 (or 5)	66	8

It thus comes about that the size of a cassava-squeezer is gauged by the number of *itiriti* stems (or *mukkru*, to use the Creole term) used in its manufacture, eight strands, as already shown, being allowed to each stem. Instead of describing the article as being so many feet long, or of such and such cubical capacity, etc., the Indian simply speaks of it as so many *itiriti*. Those of six and eight *itiriti*, the largest manufactured, are orthodox, *i.e.*, employed for actual domestic use, those of seven *itiriti* I have never seen, while all those of a lower denomination are made for sale as curios, etc., to tourists and others. Though two squeezers may be made of the same number of stems, their length is not necessarily identical, this varying with the height of the rafter on which they are intended to be hung. It must not be forgotten that in the larger varieties the additional and extra strands may also be "doubled" as were the foundation strands.

Shoulder-girdle.—The two upper angles of the triangle surface (Plate II, Figs. 5, 6), formed of the shoulder and lower half of the collar, are next plaited and joined (Plate II, Fig. 7), the space intervening between the two free sides being filled up by a continuation of the process, with the final result that extending from between the mouth to the level of the scapular point, there is now formed what may be regarded as the shoulder-girdle (Plate II, Fig. 8). When the number of strands employed in the construction of the shoulder is not in accordance with the essentials laid down in the preceding table, the lower level of this shoulder-girdle will show an interspace, the width either of one or of two strands: owing to carelessness, hurry, or forgetfulness, such a contingency will often happen, but it can easily be met by inserting within the lacuna the necessary one or two required. Though, under such circumstances, the skill and dexterity of the artificer may be called in question, the article is not one whit the worse for it from an economic point of view.

So far, the pattern followed in the plait has been the same all the way through—a horizontal series of exposed pieces of strand leaning on the slant upon another series, above and below, bearing in the opposite direction (Plate II, Figs. 9, 10, 11*a*). This in fact gives the pattern its Arawak name of *a-yure-dahu* (to lean against).

Body proper.—With the formation of the body proper, however, the pattern changes from horizontal to vertical, the plaiting now taking on one or other of three forms, the *assa-uda* (Plate II, Fig. 9*b*), the *abuna-buna-tahu* (Plate II, Fig. 10*b*), and the *aha-(h) abba-dahu* (Plate II, Fig. 11*b*). The first is so named after the *assa*, a particular fish with hard scales which the pattern closely resembles, and *tuda*, the skin: the Warraus, however, speak of the pattern as a pathway cleared by *kushi* (ants). *Abuna-buna-tahu* is the plural form of *tabuna* (a bone), the term applied to any little piece of exposed strand in a plait-work. It is a pattern which by its very construction has to be worked in more or less of a spiral, but instead of continuing each spiral throughout the length of the body proper, it may be reversed after a time, then brought back to its original direction, and so on alternately: if the reversing process is followed, the resultant pattern as a whole gives rise to the appearance of vertically arranged very open zig-zags. The term *aha-(h)abba-dahu* is adapted from *habba*, the four-legged cassava-basket, the sides of which are always plaited in this (the orthodox) pattern: the Warraus, however, describe this pattern as the *wamma-ahabba* or *kamudi* (snake-mark).

Hip-girdle.—When the body proper has been thus constructed to the required length, the plait, whatever its pattern, reverts to the original or *a-yure-dahu* form of which three or four, of course horizontal, series are made: these constitute the hip-girdle (Plate II, Figs. 9, 10, 11*c*).

Leg.—Starting from the centre of the lower border of this hip-girdle, front and back, the strands are divided and plaited to form two lateral triangular lappets (Plate III, Figs. 1, 2*l*), with the result that the free ends of the strands form four groups or tails, two of which are anterior (*a*, *c*) and two posterior (*b*, *d*).

By passing successive sets of two strands, each from one anterior tail, alternately over and under corresponding successive sets of two strands, each from the other (Plate III, Fig. 3), and repeating the process with the posterior tails, the four groups of free strands will of course change places, the two at the back coming to the front, and *vice versâ,* while the lappets are being simultaneously pulled into closer and closer apposition (Plate III, Fig. 4). Next comes the plaiting together on each side into a band (Plate IV, Fig. 1, *m, n*), of the anterior and posterior groups (*i.e.*, *a* with *b*, and *c* with *d*), the original under- and over-lapping of three strands at a time being reverted to, but with the very important proviso that every two strands are superposed and plaited together as a single one.[1]

In consequence of the former process, the lappets become gradually more or less surrounded and hidden: in consequence of the latter, the sectional area of the cylinder is first greatly reduced while the cylinder itself next disappears in direct proportion as the two lateral bands (resulting from the plaiting together of the anterior or posterior groups of strands on each side) come into being.

Ankle-ring.—Save that every two strands are superposed and plaited together as a single one, each of these flat lateral bands is constructed on exactly the same lines as the original collar, the outer edge being "bent" in similar manner, the exact number of strands so treated varying with the size of ankle-ring required. Suitable lengths being selected, these two bands are plaited together (Plate IV, Fig. 2) to form the ring, the four groups of strands (*w, x, y, z*), resulting at their junction, being worked off, tied at their extremities (Plate IV, Figs. 3, 4), and folded inwards so as to be tucked into the concavity (Plate IV, Fig. 5) of the ring.

3. THE ARAWAK FAN.

Terms.—For descriptive purposes, an Arawak fan may be regarded as composed of a blade and handle, the former consisting of a body and two wings (Plate VI, Fig. 1*w*); the body is made up of a foundation (*a*), a super- or substructure (*b*, *c*, according to the pattern), and two gables (*d*). Made by men.

Arawak nomenclature.—A fan is called *warri-warri*: the two halves of the handle are the *tajike* (ears): that portion of the blade in its immediate neighbourhood is the *tishi* (head): its opposite edge the *tishi-hudi*, the lateral edges *taramakondi*, the front or upper surface *tajako-mária*, and its back or lower surface *tabong-mária*.

Initial procedure.—The initial procedure will vary with the design introduced on the blade, the only constancy prevailing being that after the strands of split *astrocaryum* have been arranged, with their points all in the one direction, the plait commences, not at their respective centres (as in the cassava-squeezers), but at a spot distant about a third of their lengths from the wider or butt (proximal) ends. The three designs found are the *bai-yari-shiri* (Plate V, Fig. 1), the

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[1] When, after each set of two has been worked in, it is found that there is a strand over, it must be superposed on the adjacent double strand, and all three plaited together as a treble.

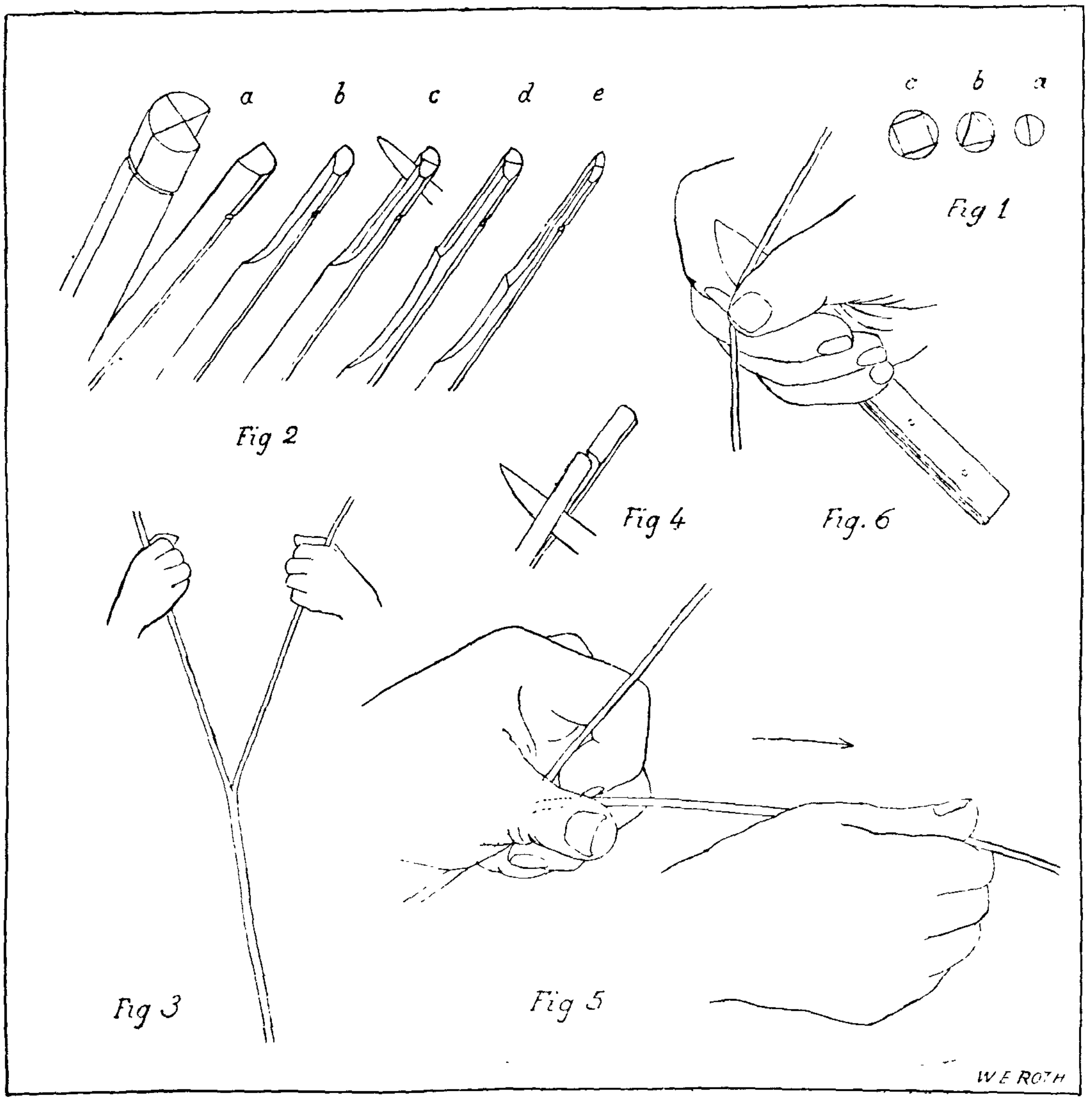
marodi sararaug (Fig. 2), and the *duburi kai-asanna* (Figs. 3, 4, 5), of which the respective English equivalents are fish-comb (*i.e.*, the saw-fish), *marodi* (penelope) bone (*i.e.*, the " wish-bone "), and sting-ray-gill; there are three variations in the third design.

(A.) *The " saw-fish " and " wish-bone " patterns.*

Foundation and superstructure.—So far as the technique is concerned, the saw-fish and wish-bone patterns only differ from one another in their foundation and superstructure, and hence may conveniently be described together. With the former fan the foundation is made by plaiting one set of nine strands more or less diagonally into another series of nine according to the arrangement illustrated (Plate VI, Fig. 2), where will be observed the small central spot of exposed strand which the Indians call the eye (*e*). The superstructure (Fig. 3) is formed by plaiting fifteen or sixteen additional strands into the upper edges of the " diamond," care being taken that, whatever be the number plaited along the one edge, a similar number must be worked on the other; absence of such provision renders the article askew and will ultimately prevent it fitting properly below. In the wish-bone variety, twelve strands are employed in the foundation (Fig. 4) while another eleven or twelve may be added on either side to form the superstructure (Fig. 5).

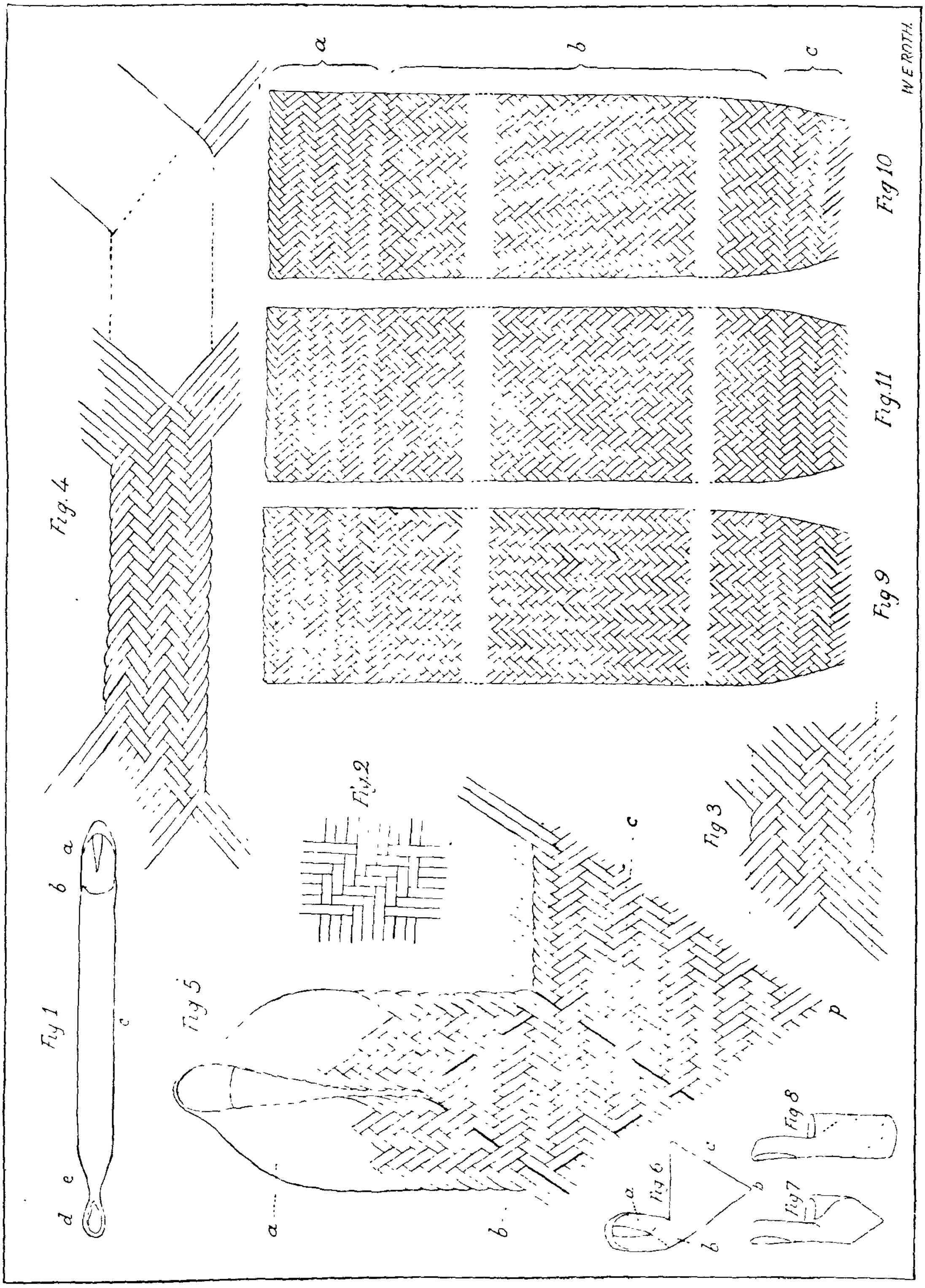
Gable.—On completion of the superstructure, the strands projecting from its upper lateral half are plaited into one another, to form the gable (Plate VI, Fig. 6), in such a manner that as each successive strand, starting from the apex of the superstructure, reaches the line which will ultimately limit the top edge of the blade, it is bent backwards, outwards, and downwards so as to underlie three or two (Fig. 7) others before rejoining the plait. Of course, when the bent strand underlies three others, the edge of the article will be much stronger than with only two, and hence the former arrangement is usually met in the fans employed for every-day Indian domestic work; on the other hand, in the specimens made for purposes of trade for Creoles and tourists, each bent strand may underlie but one other (Fig. 8). This bending and plaiting process proceeds until four strands remain at the top outer corner, that is to say, provided three strands have been underlapped at each bending; three or two must, however, remain if two or one respectively have been underlapped. The piece of plaiting being now reversed, the other gable is built in a similar manner, and with it the body of the blade is finished. It will be noticed (Plate VI, Fig. 6), that the strands projecting from the gable portions of the body's two sides are all formed of the tapering (distal) extremities (*k*), while those from the foundation and superstructure are composed of the (proximal) butt ends (*z*).

Wing.—Starting then on each side with the innermost of the four strands projecting from the upper corners of the body, these are bent, passed under the three remaining and plaited parallel with the side of the body (by means of the usual under- and over-lapping of three at a time) until they reach the lower angle



SPLITTING THE STRAND.

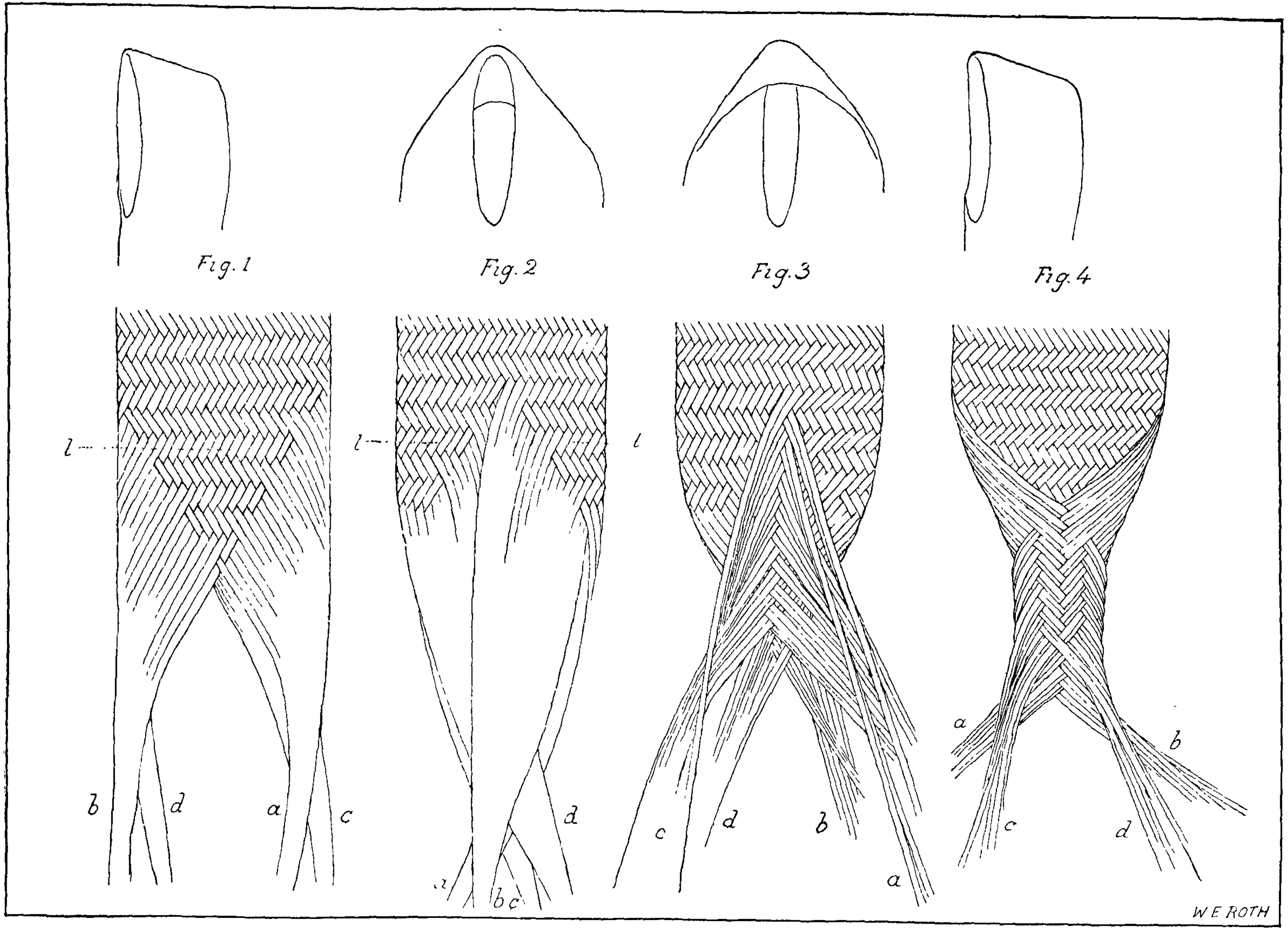
TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.



TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

THE CASSAVA-SQUEEZER.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, Plate III.



THE CASSAVA-SQUEEZER (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

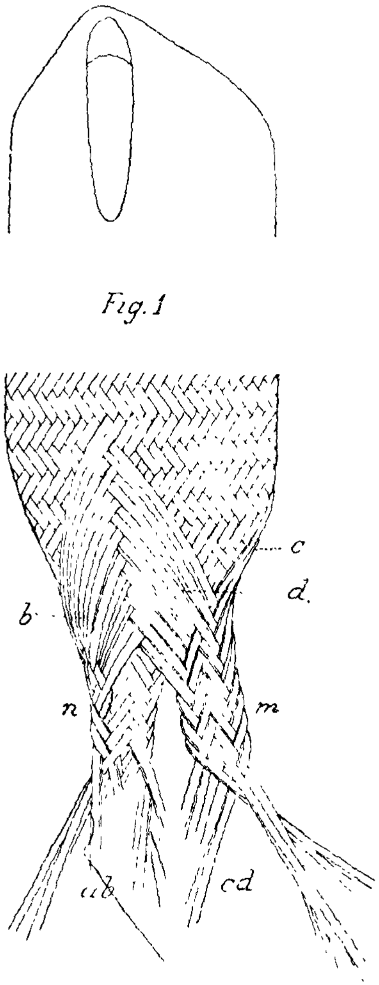


Fig. 1

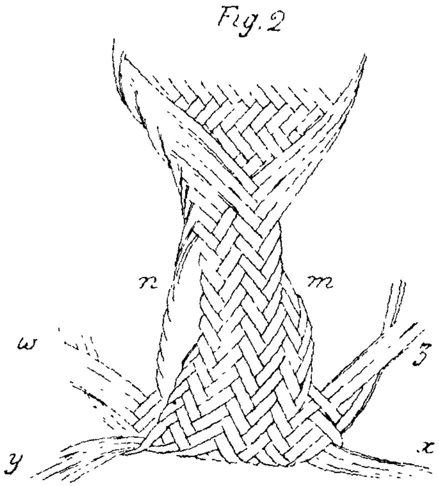


Fig. 2

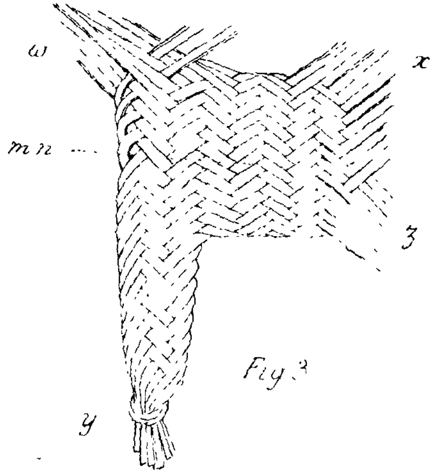


Fig. 3

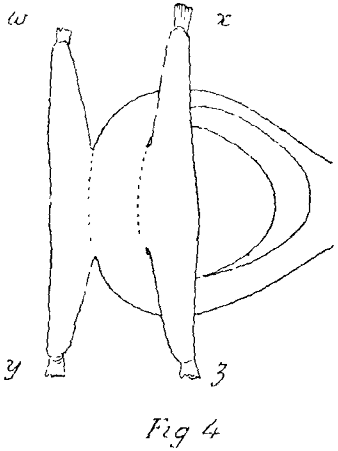


Fig. 4

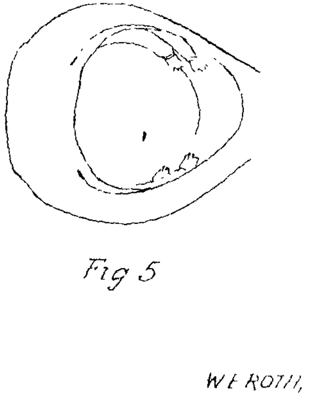


Fig. 5

THE CASSAVA-SQUEEZER (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate V.*

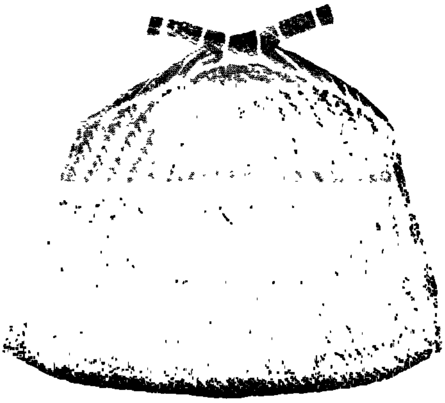


FIG. 1.

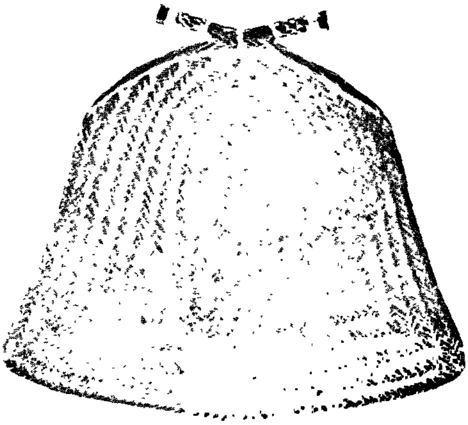


FIG. 2.

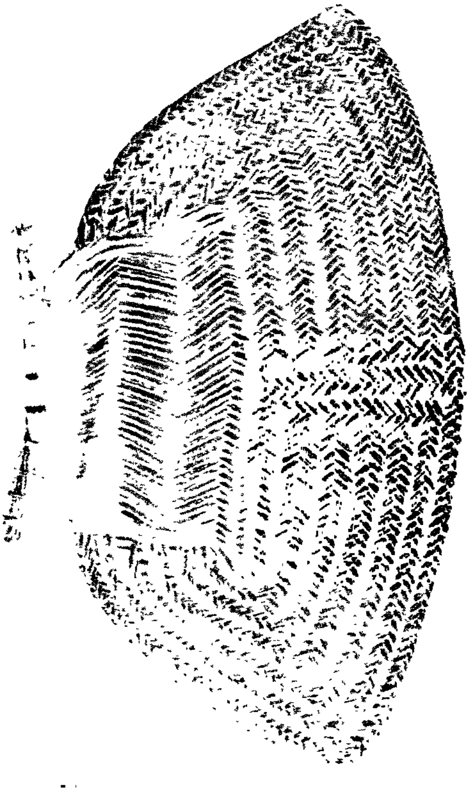
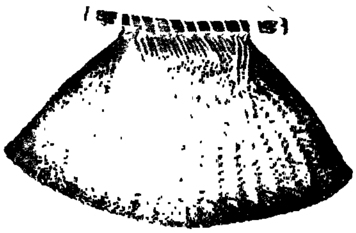


FIG. 3.

FIG. 5.



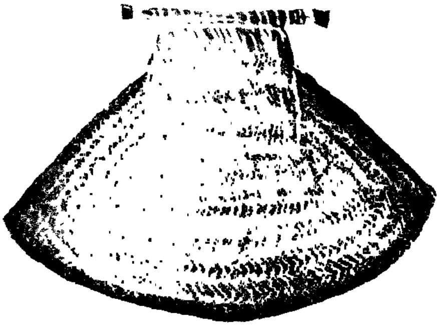
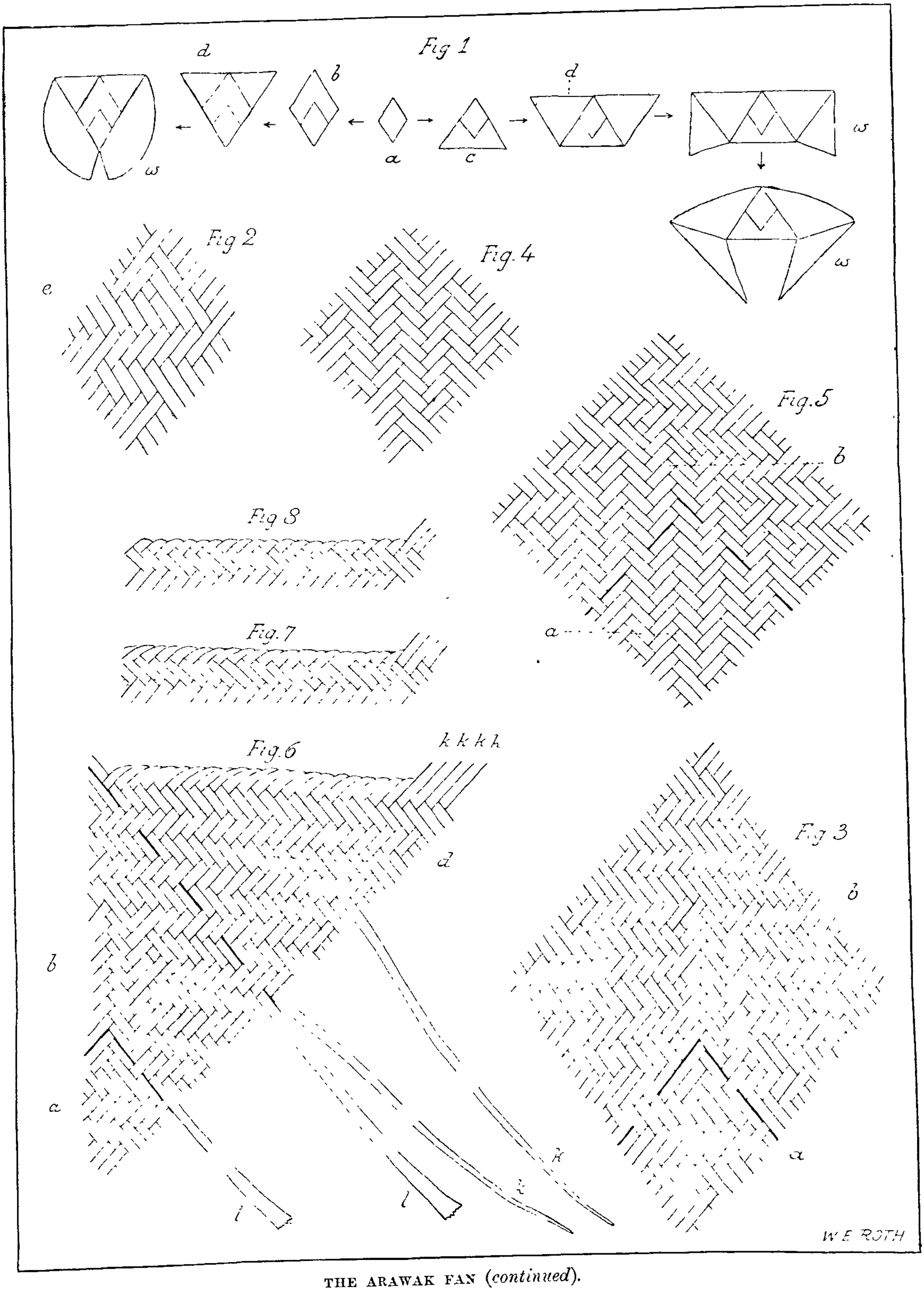


FIG. 4.

THE ARAWAK FAN.

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

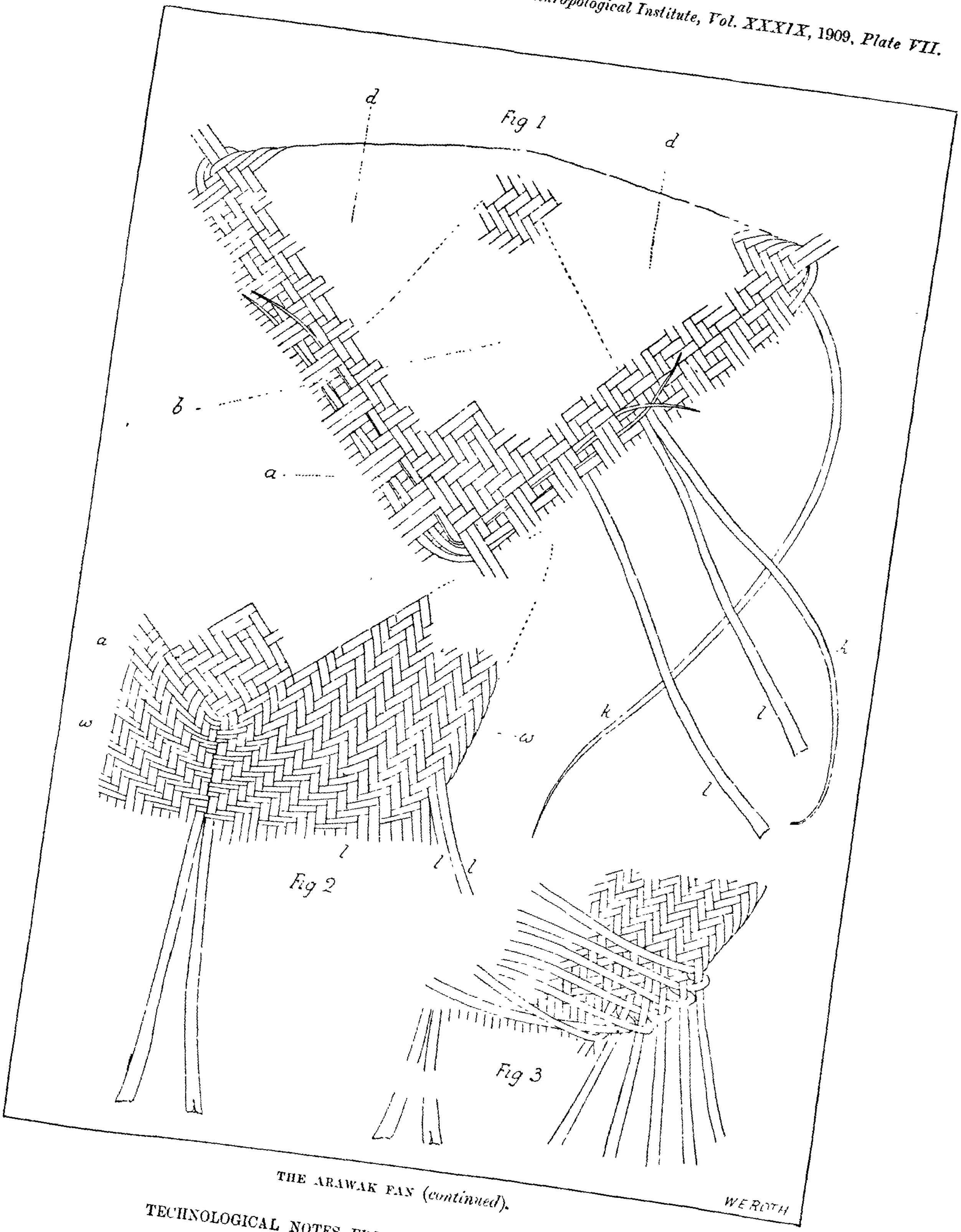
Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate VI.*



THE ARAWAK FAN (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate VII.*



THE ARAWAK FAN (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, Plate VIII.

Fig 1

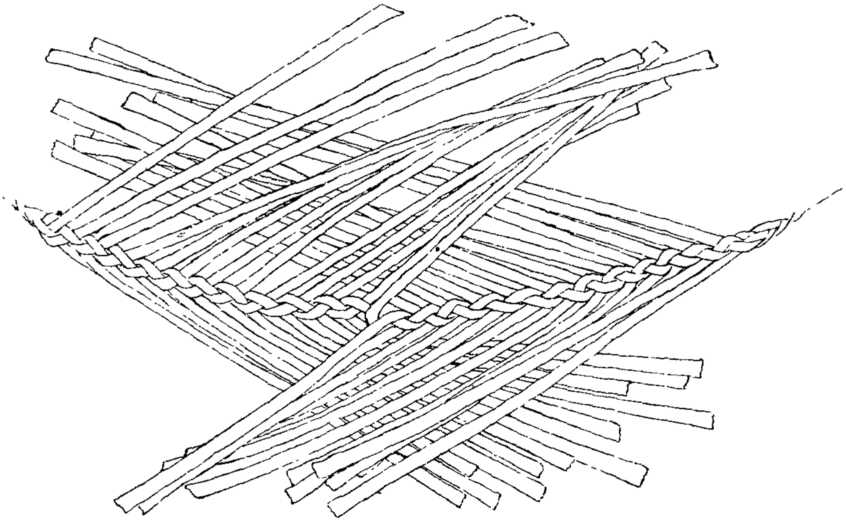
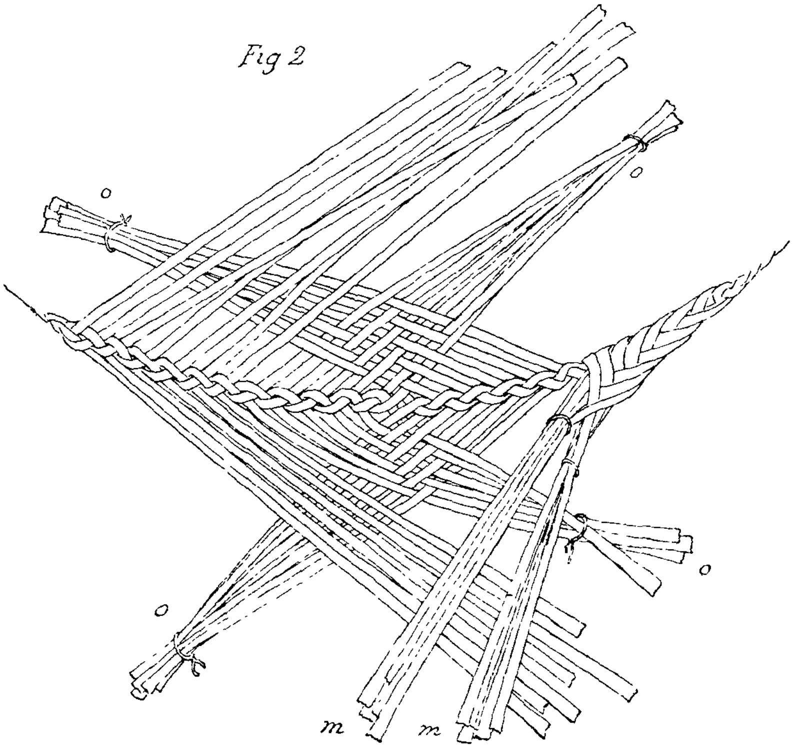


Fig 2

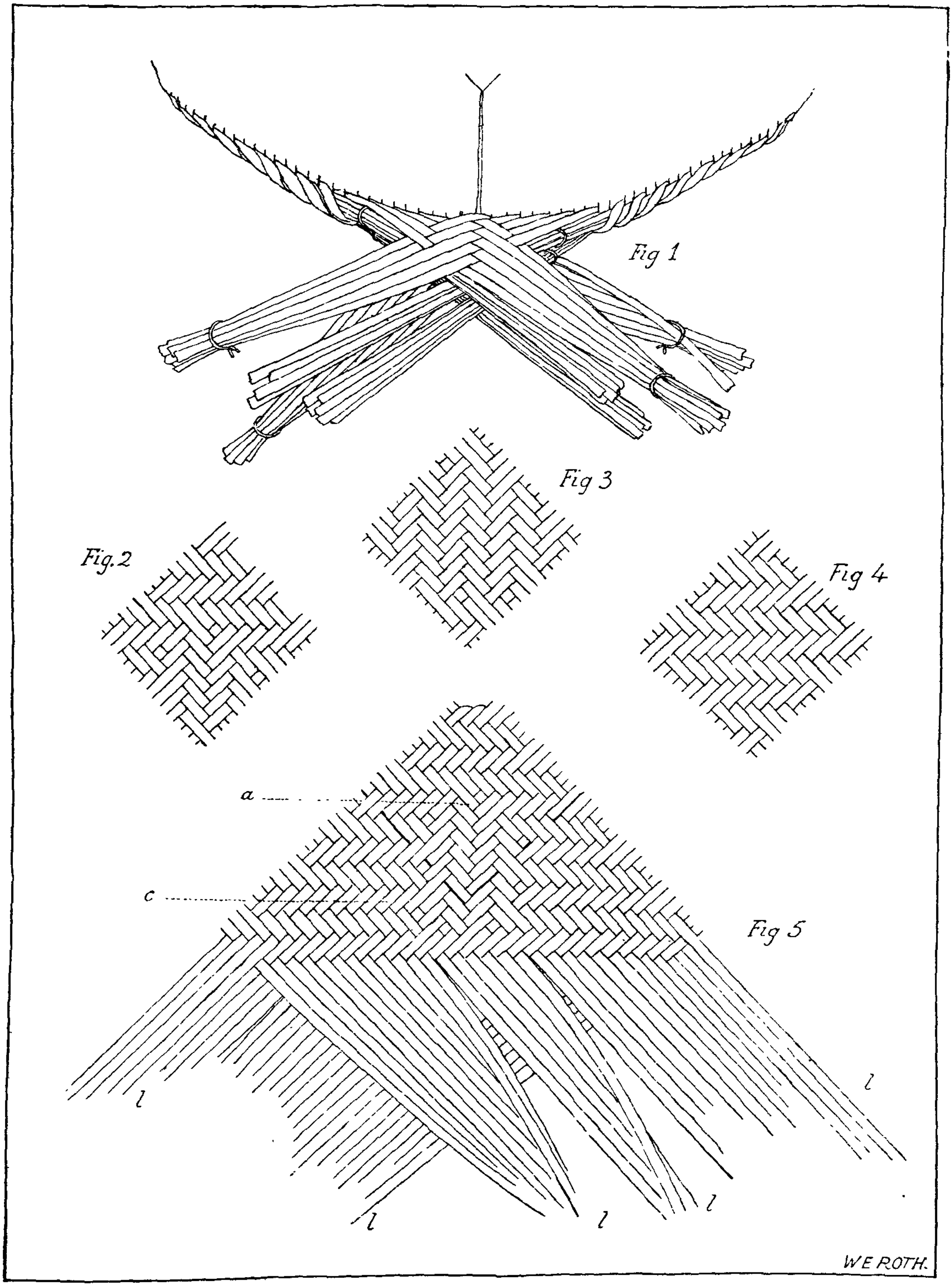


WE ROTH

THE ARAWAK FAN (*continued*).

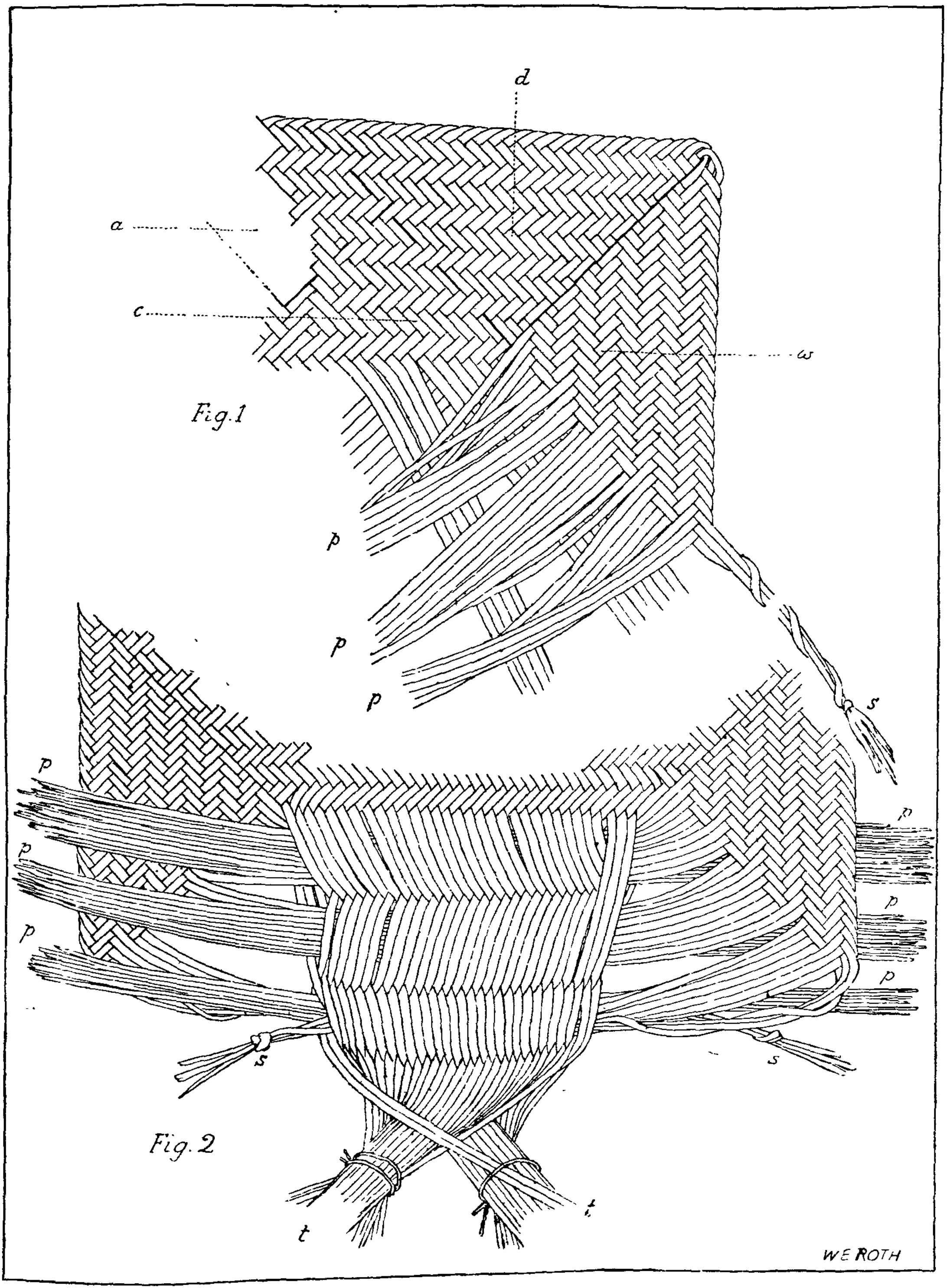
TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate IX.*



THE ARAWAK FAN (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.



THE ARAWAK FAN (*continued*).

TECHNOLOGICAL NOTES FROM THE POMEROON DISTRICT.

of the foundation, between the two innermost butts where they cross (Plate VII, Fig. 1), the distal extremity of the one strand being finally tucked under and along the corresponding extremity of the other.[1]

The process is repeated with the next two corresponding strands, and so on until all the distal extremities of the strands projecting from the gable portions of the body's sides have been plaited, and tucked out of the way, to constitute the two wings (Fig. 2).

Handle.—The making of a handle out of the remaining proximal ends of the strands projecting below the blade is next proceeded with. Starting with the outermost, these are bent upwards successively and alternately one over the other (Plate VII, Fig. 3), until the innermost butt is reached, each newly bent strand thus helping to keep in position the one immediately behind; as a result, half the strands project more or less at an angle from the one surface of the blade and half from the other, thus constituting a set of two contiguous groups. After repeating the process with the butts projecting from the outer half of the blade, another set of two contiguous groups of strands is obtained (Plate VIII, Fig. 1). The outer components of each two contiguous groups are next bent upwards as before, successively and alternately one over the other, and their extremities tied into two bundles (Fig. 2 *mm*). The inner components, however, of the one set of two contiguous groups are plaited after the usual manner into the corresponding strands in the other set (*o*, *o*), this plait with its projecting strands ultimately forming the outer covering of the four bundles which have been tucked up underneath (Plate IX, Fig. 1). All these bundles are now lumped together and tied to constitute the handle.

In the saw-fish and wish-bone patterns of fan, a flat pencil of wood may be passed from below through the plait in between the innermost butts into the lower portion of the foundation (Plate V, Fig. 2); the Indians say that though this addition may increase the strength of the lower portion of the blade, it will tend to weaken it beyond.

(B.) *The "sting ray-gill" pattern.*

Foundation and substructure.—In the sting-ray fan, the foundation is made by plaiting thirteen strands into thirteen (Plate IX, Fig. 2), the pattern so produced being identical with a limited portion of the design introduced into the superstructure of the saw-fish and wish-bone varieties. This is the locally orthodox Arawak pattern, but what are described as more easily constructed variations (Figs. 3, 4) are manufactured; such completed articles are shown respectively in Plate V, Figs. 4 and 5. The substructure is obtained by adding a varying number of strands parallel with the lower edges of this diamond, an equal number on each side, and plaiting in such a manner (Fig. 5) that projecting below are two series of butt ends, the one series lying on the other.

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[1] The size and method of construction of the fan are so adapted to the length of the leaf from which the strand is derived, that they just allow of this arrangement being made.

Gable: wing.—Gables (*d*) and wings (*w*) are next successively constructed (Plate X, Fig. 1) on the same lines as with the other fans, the only real difference being that the distal portions of the strands that have collectively formed the wings are not plaited into any of the butts but are left free to be roughly divided into three equal bundles (*p, p, p*). The three bundles from either side are then together tucked into and covered by the compartments formed by regularly crossing the upper and under series of butt-ends three times, the only exception to this regularity being with the three outermost strands on opposite surfaces of the blade, where the bundles commence to be hidden (Fig. 2). The next thing is carefully and successively to pull on the projecting extremities of the bundles and three outermost butts in the proper direction suitable for enabling the lower angle of each wing to be dragged more and more towards the centre.

Handle.—When this angle on each side reaches within cover of the butts, the latter are suitably arranged and tied to constitute a handle (*t, t*). The projecting extremities of the bundles (*p, p, p*) are finally cut off flush where they emerge from cover.

NOTES ON THE TRIBES IN THE NEIGHBOURHOOD OF FORT MANNING, NYASSALAND.[1]

By Captain C. H. Stigand, Royal West Kent Regiment.

Native Tribes.

The chief tribes in the neighbourhood are :—(*a*) Angoni, (*b*) Achewa, (*c*) Achipeta, (*d*) Achikunda, (*e*) Asenga; and more distant:—(*f*) Akunda, (*g*) Awemba, (*h*) Awisa, (*i*) Swahili, (*j*) Ayao, (*k*) Atonga.

There is one Swahili village, the chief being an ex-Askari,[2] and some Swahili among the Askari from the lake shore at Kota Kota.

Since the arrival of the Angoni and the consequent wars, the tribes have become rather mixed. The section of Angoni who settled here under Mpeseni have occupied chiefly Asenga and Achipeta country. For instance, Mponda, an Achewa chief, used to have his village under the west side of Mchenje, and held out in a fortified village against the Angoni for some time, but was finally worsted and had to run away. When things had quieted he built his village near the Rusa, about fifteen miles to the east of Mchenje.

Katungwe, another Chipeta chief, used to have his village near where the White Fathers now are.

A tree, in the gap between Chilembbwi and Kalulu Hills, is called Kuvakutira by the Angoni (from Kuvakuta—Bellows), as, when attacked, Katungwe at that place made the points of his arrows red hot with a native skin bellows before shooting them. He afterwards built his village twenty-five miles to the east.

When the Angoni began to beat everybody the Achipeta concentrated in several places, many joined Mwasi, the Achewa chief, at Kasungu to the north, whilst others collected near Dowa. When peace was restored the Achipeta who had been with Mwasi had got mixed with Achewa, and there are many who still don't know whether they were Achewa or Chipeta originally. The Angoni raided and made slaves in every direction, marrying the women captured, and keeping the men to help them fight. There are numbers of Asenga, Achewa, Achikunda and

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[1] This paper deals specially with the neighbourhood of Fort Manning, British Central Africa, and more generally with the whole of British Central Africa, North-Eastern Rhodesia, and Portuguese East Africa. The language of the Angoni has been described as Zulu (Ngoni) for want of a better name. The language is evidently of Zulu origin (as are also the people) and possesses the two clicks *c* and *q* which none of the surrounding languages do.

[2] Native soldier.

Chipeta among the Angoni, who now call themselves Angoni, also a few Atambuka, but the latter are chiefly the slaves of the Mombera section of Angoni to the north. There are also Akunda among the Angoni.

Angoni.

This tribe lives chiefly to the west of the Fort, but there are a few villages to the south and west.

General characteristics.—A warlike tribe of Zulu origin, of great stamina and endurance, and of larger physique than the neighbouring tribes, who settled in this neighbourhood under Mpeseni (son of Zongandowa and brother of Mombera). Owing to intermarriage with and absorption by other tribes they are rapidly losing their physique and language. Since the death of Mpeseni they have had no big chief, and are now under a lot of small chiefs, each with but a few villages. They are honest, straightforward and obedient. An order has only to be conveyed to a chief, and what is required is invariably done. They are inclined to be lawless, however, with neighbouring tribes, looking on the Achipeta, especially, as their lawful property, to loot if occasion offers.

Although some of them are excellent trackers they do not seem to go in for hunting. All captured people and their offspring are admitted into the tribe and called Angoni, and now only the chiefs remain of pure Angoni blood, and only the old men can talk the language. On the death of a chief it is the custom for the son to succeed, unlike Ayao and Atonga. They do not make such good porters as the Ayao.

The head chiefs of the Angoni in the Protectorate are:—Mlanyeni, son of Mlanyeni, son of Mpeseni, name of household, Akwajiri; Kangwere, Akwankua; Nyoka, Akwatori; Mgubu, Akwantano; Zuru, Chimbilu, Msechi, Namawendi, Mphete, wife of old Mlanyeni. The latter is now in Mombera's country.

Achipeta.

This tribe lives chiefly to the east of the Fort. It is a race of poor physique, timid and unreliable. The chiefs have no real hold over the people, and hence the people are not accustomed to obey orders. They generally take the line of least resistance; they will readily assent to anything they are told and not do it. They hunt, or used to hunt, considerably, with dogs and guns, traps and game pits. Their villages are often stockaded to keep out lions. Like the Angoni, they cultivate very largely. They go in for rough iron smelting.

In a big war, they protect their villages with earthworks, and the remains of those used against the Angoni are to be seen in many places. Kabadala's village is a notable example, consisting of a group of earthwork-enclosed villages, with high walls of red clay, now considerably broken up.

The biggest chiefs of the neighbourhood are:—Kamwendo, Kiesa, Mzama, Kongoni, Kalulu, Kabadula, Kampanga; also:—Chimteka, Chimbwe, Nsawmbe.

Achewa.

This tribe lives to the north-east of the Fort, with an isolated detachment in the Mangazi valley, which was perhaps cut off when the Angoni wedged themselves in. They live chiefly in the neighbourhood of Kasungu (Fort Alston) where their chief Mwasi used to live. Now they are split up under lesser chiefs.

Formerly they possessed many rifles, and under Mwasi kept the Angoni off. Now they have practically no rifles.

The true Achewa, coming from Kasungu, appear to be of better physique than the Achipeta, and tall, strong men are often seen, but, as before stated, they are now so merged into the Achipeta that it is difficult, perhaps impossible, to tell where the one tribe begins and the other ends.

Many villages, calling themselves Achewa, are of more Achipeta-like aspect, and were probably Achipeta before joining Mwasi, when driven out by the Angoni, but have called themselves Achewa since.

In customs, habits, language, etc., they are very similar to the Achipeta, and so will not be described in detail.

The biggest chiefs are:—Mponda, Kapilama, British South Africa Co., south of Boma.

Achikunda.

This tribe lives to the south and south-west of the Fort, in Portuguese territory chiefly, with a few on the border. They are great hunters and have many rifles among them. They (or the part of them in the neighbourhood, for they are a very large tribe), have not been brought into contact with Europeans much, their country not being occupied by Portuguese officials in the manner that British territory is by British.

Occasionally the owner of the Prazo[1] may appear to beat up taxes or recruits for labour, but more generally his Askari or Kapitaos[2] do this. Their visits do not seem to be especially appreciated, as on the approach of a white man the villages are usually deserted, and the inhabitants cannot be induced to return till his departure.

They hunt[3] largely, elephant and buffalo with rifles, and smaller game with dogs, bows and traps. Every little village of a few huts seems to possess two or three rifles. The prevailing types are Tower muskets and flint locks. They buy these from the Portuguese, as also powder—*Onga*; in Swahili—*Baruti*. The bullets they make themselves out of iron or solder.

There is no native method of preparing powder. Flasks are made out of buffalo horns; the thick end is stopped up with wood (ebony). Powder flask—*Palavalenyo*. The tip of the horn is cut off to pour the powder through and closed with a bit of wood or cloth. It is worn in front of the waist.[4]

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[1] Land or estate leased to Portuguese officials, which they virtually govern, lit. = lease.

[2] Native overseer or headman.

[3] See Hunting, in Report 20.2.06. *J.R.A.I.*, xxxvii, p. 127.

[4] Ruga-Ruga (north of Nyassa) wear theirs at the side.

They do not seem to have been worried particularly by the Angoni. During the Angoni wars they used to buy slaves from the Angoni with ivory, etc.

Awemba.

A very numerous and powerful tribe living towards Bangweolo and Lake Mweru. They hunt with spear, arrow, game-nets and traps, but do not appear to be in possession of rifles.

Awisa or Abisa.

These people live on Loangwa River, about Kambwire's Village, and towards Bangweolo. They hunt considerably and also fish to a great extent.

Their language is very similar to that of the Awemba as are also their habits; the latter tribe, however, are more of a river and water people. They will eat crocodile flesh which the Awemba will not.

Asenga.

This tribe seems to have suffered most from the coming of the Mpeseni section of Angoni, as the latter live chiefly in what used formerly to be Asenga country. There are many of them now living among the Angoni, having been made slave by them formerly; the present language of this section of Angoni is rapidly merging itself with that of the Asenga.

Atumbuka.

This can hardly be called an independent tribe now, having been merged into the Mombera section of Angoni. Their language, like that of the former tribe, is having a great influence on that of their former captors. The Angoni have freely intermarried with the women of conquered tribes, and the offspring naturally learn to a great extent when young the language of the mother.

Ayao and Atonga.

These tribes have been often described, so will not be discussed. They both furnish excellent soldiers, although the latter has never been a particularly warlike tribe.

Tribal Marks.

Tribal marks are made when a man wishes, generally after puberty has been attained, but no compulsion is used. A man sometimes has himself marked with the marks of another tribe in addition. That is to say, a man belonging to a slave tribe may have himself marked with the marks of a superior tribe and may often try to pass himself off as one of this tribe.

Achewa and Achipeta.—Long vertical gashes on face, shoulder and back. Women the same. Women wear Mpeti in centre of the lip like the Atonga.

Achewa and Achipeta call this Ntona. It is made sometimes of solder and sometimes of bone. In an old woman the hole is often large enough to reveal her teeth.

Angoni.—Have no tribal marks. Both men and women slit their ears, towards the bottom of the lobe, a slit being from about one-eighth to one inch long.

Akunda.—Two vertical gashes on forehead.

Asenga.— # on forehead, temple and stomach.

Ayao.—Two perpendicular gashes from behind the eye downwards, on either side of the head. Women wear Chipini (a large stud made of solder, sometimes of bone when solder cannot be procured), in left side of nostril like Swahili women. Yao women have no tribal marks, but are generally covered with gashes on legs, stomach and buttocks.

Atonga.—Four gashes on either side of the head, behind the eye, in the form of a cross + Women wear Mpeti in centre of lip.

Awemba.—Blue line down centre of forehead.

Atumbuka.—Three lumps like warts on the centre of the forehead, and vertically above one another and the nose.

Value of different Tribes as Soldiers.

The different tribes may be divided into three different divisions.

(1) Dominant tribes, who have expanded at the expense of other tribes.
(2) Tribes who have not in the past shown any strong warlike tendency, but have managed to hold their own.
(3) Slave tribes.

In the first division we might place the—Ayao, Angoni, Awemba, and perhaps Swahili.

The Ayao are essentially the best fighting men to be had in Central Africa, and perhaps the best to be had in the whole continent. Strong, hard, obedient and amenable to discipline, brave and cheerful, they will never desert their officers in danger and suffer from no caste prejudices, religious scruples or waves of fanaticism, which make so many native troops difficult to deal with. Many of them profess Mohammedanism, it is true, but they do not worry themselves with many of its observances.

The Angoni and Awemba should prove themselves good fighting men, coming as they do from a warlike and disciplined stock, but the former, as we have stated, are fast degenerating from intermarriage and should be carefully picked.

Angoni, originally strong, have broken themselves up into sections as they have accumulated wives and slaves, and in these sections almost every household has with its captives and other people (enticed to bring up the fighting strength) founded a village of its own, so only the chief of the village is of anything like pure stock, and most of the remainder who call themselves Angoni have no pretensions whatever to Angoni blood. This was strikingly exemplified when enlisting an

Angoni Coy., in 1904–5, from among the Mpeseni section. On calling for recruits, about one hundred so-called Angoni presented themselves, of whom I rejected about seventy-five as worthless, and on writing down the remainder found that they were all the sons of local chiefs or their Indunas.

The Swahili have not been found successful. They have probably gained their present position (coming from Zanzibar) by their skill in trading and the superiority of their firearms.

To the second division we might assign:—Atonga, Alolo, Awisa, Achikunda, Achewa, and perhaps Akunda.

The Atonga, although not of a warlike tribe, as soldiers can be ranked only second to the Ayao.

The Alolo have proved themselves fairish soldiers.

A few carefully picked Achewa and Akunda have proved themselves excellent men, but they must be very carefully chosen, and these tribes would not afford any bulk of suitable men.

I do not know of what the Awisa and Achikunda are capable, but, judging from appearances, the former tribe appears to hold some good men.

In the last division, viz., slave tribes, we might place the—Achipeta, Atambuka, Asenga, and perhaps Manganja.

Among the Manganja a good man is occasionally found, but the three remaining tribes may be dismissed as worthless.

CUSTOMS OF WAR.

The Achipeta largely use bows (*Uta*, pl. *Mauta*) and arrows (*Mubvi*, pl. *Mibvi*). The arrows are poisoned in various ways. They are made with a point of rough smelted soft iron inserted into a shaft of reed (*Bango*), and bound on with string. The notch to take the bow string is also bound, to prevent the reed splitting. They do not feather their arrows, but the Achikunda use vultures' feathers for this purpose. The bow is made of a tree called *Tenza*, is about 5 feet long, nearly straight in the middle, and curving at the tips.

The string (*Nsinga*) is made from prepared tendons to be found on either side of the spine of the Kudu (males only), eland (females only) and hartebeest (male and female). The method of stringing the bow is curious. There is a hole bored at either end through the wood, through which the tendon or string is passed, and then, after being wrapped some twenty times round the bow, is made fast on itself.

To tighten the bow one end is placed on the ground, and the weight of the body brought to bear on the other end. This bringing the two ends nearer each other slackens the string, which is taken up through the hole and the slack disposed of by twisting all the turns round and round till the slack is taken up. The end is then released and the bow is taut.

Arrow Poison.

The preparation of arrow poison is not generally known, the secret being confined to a very few. Thus among the many villages between Fort Manning and the Bua where the road crosses it, there is only one man known to be able to make it. Those who are skilled in these things are not ready to divulge their knowledge, and the old men are always afraid of the young men making improper use of such knowledge.

Arrow Poison.—Chaola, as distinguished from other kinds of poison.

Achipeta Tribe.—Methods of preparation.

(1) Roots are obtained of :—

(*a*) A plant called Chula-Nyunga.
(*b*) „ „ Chuuyu Ndazi.
(*c*) „ „ Ka-Udzu.

(The two foremost have roots the shape of potatoes, the latter, signifying "little grass," is a flower.)

(*d*) The fruit of Ntula.

The nostrils are closed by stuffing up a small piece of cloth or calico while digging the roots up and during preparation. The three roots are then taken to a spot some way from the village, and are chopped up fine while the Ntula is sliced; the whole is then put in an earthenware pot and water poured in to just cover it. If a snake called *Kalikwikwiti* can now be obtained it is put in whole, otherwise it is omitted.

A hole is made in the ground to rest the pot in, and it is covered over and left. It is examined from time to time, and if it has dried up, more water is added. It is kept like this till it is required for use. If the village is threatened with war, the pot is brought in and placed ready for use in the place to be defended. Before firing, their arrows are dipped in it.

If they are going out to fight all the arrows are dipped in, taken out, and the poison allowed to dry on them, before they are inserted *point downwards* in the hide quiver.

(2) An animal poison made of the gall bladder of the crocodile and certain parts of toads and snakes, mixed in a pot and kept ready for use as above.

A quiver (*Podo*) is made of rough hide and the arrows placed in it point downwards. It is hung on the back with two strings, the top behind the right shoulder. The arrows are taken from behind the shoulder as required.

As is generally the case, the natives do not seem to practise shooting with bows or spear-throwing of their own accord. Spears and arrowheads are made of soft rough smelted iron.

The Achipeta used to fortify their villages by building thick mud walls round them, and by planting in front of this a maze of Mkadze (a kind of euphorbia tree), through which the path wound. In the centre of the village would generally be a well. The earthworks are banked up on the inside—sloping to the rear—presumably for drainage. They were made by hand only, the wet clay being trodden in a hole, and then slapped on and allowed to bake in the sun. I have not been able to discover or hear of any case in which pits have been dug in the pathways or entrances to the village, although it is a common practice to dig them for game. Loopholes about 1 foot by 3 inches, through which to shoot arrows, are made. Outside the walls is a ditch, and over this an impromptu drawbridge, made of long poles.

The defenders await the attackers, crouching in the Mkadze hedge, from which cover they shoot their arrows and then retire to the work, clambering across the bridge of poles, and pulling them in after them.

Examples of earthworks are Kabadula's Village, Mabwera's Village, and many others.

The Angoni use neither firearms nor bows, although men captured by them from other tribes might be seen with bows.

Their weapons are a bundle of spears (*Mkondo*, pl. *Mikondo*), carried in the left hand behind the shield (*Chishkhliango*), and a knobkerry (*Nthonga*) generally carried in the right hand. The spears are used for either throwing or stabbing, and are taken from the left hand as required. A dart called *Ruti* is often carried also, being an iron head attached to a short stick, feathered with hair and strips of calico, in all about 2½ feet long.

The shields are made of bullock hide, about 4 feet long and 2 feet broad. At the back is fastened a stick, about 5 feet long, surmounted with the tail of a spotted cennet (*Simba*) bound round it. The centre of the shield is strengthened with two strips of goat hide, passing from top to bottom through slits in the hide. At the back in the centre is a leather loop to hold with the fingers of the left hand. Arrows will not penetrate. The knobkerry is from 2½ feet to 3 feet long.

War Dress.

Feathers in the head. Simba skins over the chest with an arrangement of long goat hairs over it—*Machoa*. A goat-skin hung from the waist in front. Simba skins on either side and a monkey's skin behind. Ear-rings of solder (*Mtovu*). Men who have been conspicuous for bravery wear horn charms on the chest.

War Dance—Mgubu.

A dance is held before going to war. A message is sent round to all the villages to call men to war. At the dance an ox is generally killed, after which beer is drunk, and the warriors set out. Scouts proceed in front of them and bring back news to the column behind. If they are few and their enemies many, they creep up to surprise their enemies, but if they are many they make their attack in daylight and make no attempt at concealment.

On attacking a village or fortified place, it is everyone's desire to "break the *boma*," *i.e.*, to be the first man inside the stronghold. It used to be a common practice with them to attack at dawn or " first cockcrow." That with spears only they were constantly attacking and often beating tribes armed with Tower muskets, flint locks and poisoned arrows, testifies to their courage. The spears must have been chiefly used for thrusting, as their throwing with spears is painfully weak and inaccurate. At 20 yards they are unable to hit a man with certainty, and at 50 they will not be able to reach him.

On return from the war a meeting is held and a bull brought into the midst. The men that broke the *Boma* then stab it in the neck with their spears, the man who was first in the *Boma*, first, then the second, and so on till it falls down dead.

Currency.

Axes and hoes are sometimes used as money.

Their values are:—

Large hoes (*Khasu*),	4	yards	calico	or	1*s*.
Small „ „	2	„	„	„	6*d*.
Axes (*Nkwangwa*),	2	„	„	„	6*d*.

There are no native markets for the exchange of provisions, etc., as on the West Coast.

DENEHOLES AND OTHER CHALK EXCAVATIONS: THEIR ORIGIN AND USES.

BY THE REV. J. W. HAYES.

[WITH PLATE XI.]

OWING to much patient research on the part of several antiquaries in the Home Counties, and, in consequence, the accumulation of a considerable mass of new evidence in connection with this subject, or at least evidence not exactly available to the writers of twenty years ago, it appears to me, that many of the opinions, formerly held, about the origin and use of deneholes, must be relinquished, and the whole discussion thereon put upon a safer basis. Nothing seems to have contributed more to the elucidation of the truth in all such matters, again, than the happy interchange of ideas, made possible by the regular publication of the "Transactions" and "Proceedings" of the different archæological and scientific societies within the United Kingdom, which can now be exchanged one with the other, thus bringing individual discoveries under the notice of all. The crowning feature of our time being the formation of such bodies as the "Congress of Scientific Associations," and "Union of Archæological Associations," together with the annual publication of an "index" containing the names of the principal writers during the year, and the titles of their papers on various subjects of interest. Then again, there is a growing tendency for the members of one association to visit those of another, and interchange lectures, so that antiquaries of neighbouring counties may be made familiar with each other's labours, thus—by the comparative study of any one branch—much additional evidence is obtained, and a broader view taken.

Now, in direct connection with the matter of this paper, a great deal has been written, and the number of conflicting opinions expressed is positively amusing, no less than *ten* theories as to the origin of deneholes struggling for recognition. Whereas the evidence now available points—as I hope to show—in one direction exclusively, namely, that they never had a higher claim than that of "chalk pits," "chalk wells," or "chalk quarries," the name "denehole" being a comparatively modern and misleading title. I say "comparatively modern" because, as far as I am aware, this name was unknown in the sixteenth century; and "misleading" because it gave the idea that the pits were somehow connected with one of the many Danish invasions. In other words, that these pits were used by the ancient Britons to hide, either themselves or their corn, from the Danes. But the etymology of the word "dene," as applied to them by modern writers, points to its derivation from an Anglo-Saxon word signifying a depression, cave, den, or hole. If it be objected to this, that it is not likely two words for the same idea would be thus used in conjunction, Mr. W. H. Steadman points out the similar cases of River Avon and River Ouse, both words " Avon " and " Ouse " meaning river or " running water." This line of reasoning, I think, ought to satisfy, as to the double name. Of course there is no limit to the imagination, nor to the innate tendency of some to build castles in the air, or deliberately to manufacture myths; and this tendency is forcibly brought to my mind by the remark of one of the guides to the series of pits at " Hangman's Wood " (near Grays) who was overheard telling a party of visitors, that a certain square hole in one of the chambers was " the place where the ancient Danes baptized their children "; the fact being that the square hole was sunk by a young gentleman from Grays, well known to me, for the purpose of finding the original floor of the chamber, and this only the year before the guide's visit.

Later on I hope to give a few more instances of how well-intentioned persons may be utterly deceived by a false deduction, from such like myths. The most reliable papers on the subject before us recently published, are those by Mr. C. W. Dawson in the *Geological Magazine* for July, 1898 (viz., " Ancient and Modern Deneholes "), by Mr. T. V. Holmes in the *Geological Magazine* for October, 1898 (viz., " Deneholes and Bell Pits "), by Messrs. T. E. and R. H. Forster, in the *Journal of the British Archæological Association* for August, 1904 (viz., " The Chislehurst Caves "), by Mr. J. G. Neilson Clift in the *Journal of the British Archæological Association* for June, 1908 (viz., " Criticism of the Hangman's Wood Denehole Report "), also in the September number, and by Mr. Francis W. Reader, in the *County Memorials* for October, 1908 (on " Deneholes "). The names of other valued contributors to the literature of the subject will be found in the Appendix or alluded to during the course of the paper.

Perhaps the earliest notice we have of an artificially excavated pit or cave, used for any purpose, is that of the pit in which Joseph was placed, *i.e.*, a pit for the purpose of temporary detention. This was doubtless one of those used for concealed stores of corn, or for the purpose of hiding in time of tribal war. Of the latter we have an instance in 1 Samuel xiii, 6, where the Israelites being hunted by the Philistines " did hide themselves in caves and in thickets and in rocks and in high places and in pits." Of the former we have an example in Jeremiah xli, 7, where Ishmael the son of Nethaniah was accosted by some fugitives who tried to save their lives by revealing certain farm treasure-pits where fruits of the harvest were stored. " Slay us not," said they, " for we have treasures in the field of wheat and barley and of oil and of honey." This referred to a well-known custom in the East of concealing the fruits of the earth in the ground or in natural caves. The same custom was pointed out to Julius Cæsar many centuries afterwards as obtaining amongst the old Germanic and even British peoples, which knowledge he was quick to utilise in securing corn for his armies by emptying these treasure chambers whenever discovered. We have also the examples of the hiding of a hundred prophets by fifty in a cave during Ahab's reign, and the hiding of David and his outlaws in the limestone caves of Adullam.

In Jeremiah xli, 9, we read that even a king sought refuge in such like places—"Now the pit wherein Ishmael had cast all the dead bodies of the men whom he had slain because of Gedaliah was that which Asa the king had made for fear of Baasha, King of Israel." Not to weary one with the enumeration of other instances of the use of refuge pits during the Maccabean period, and the later, Herodian, period of Scripture history, I pass on to some evidence from Classical History. Diodorus Siculus about 44 B.C. writes of our British ancestors: "They say that its original tribes inhabit Britain, in their usages keeping the old ways of life; for in their wars they use chariots, and they have mean habitations constructed for the most part of reeds or of wood, and they gather in the harvest by cutting off the ears of corn and storing them in subterranean depositories."

It is this passage which has led several writers into mistaking silos and grain pits for deneholes, but, as a general rule, silo pits and granaries differ altogether, in shape and size, as well as in material from the pits now under consideration, and, unlike deneholes, were excavated, not for the purpose of their contents, but as receptacles and storehouses. Tacitus (in *De Moribus Germaniæ, c.* 16) says that the Germans were accustomed to dig subterranean caverns, and then to cover them over with much loose earth (compost), forming thereby a refuge from storm and a receptacle for corn, because by means of such sort of places they resist the frost; and besides, if at any time an enemy came, the open country is plundered; but these concealed and deep sunk dens are either unknown or deceive the plunderers, even by the very circumstance that they are places to be hunted after."

King (in his great work *Monumenta Antiqua*, p. 44 and onwards) mentions the evidence of Hertius (in *De Bello Africano*, sec. 57) touching corn pits in Barbary; also that of Dr. Shaw (in *Shaw's Travels*, p. 139), of Dr. Russell (in reference to Aleppo), of Harmer (in his *Observations*, vol. 2 and 3) and of Tavernier (in his *Voyages*, tom. i, p. 198), where he notes the same custom in Syria and Persia. Again, the traveller Chardin (in tom. i, p. 38, ed. 1711) says that in Mingrelia near Media "he has seen pits of this kind which have served from generation to generation, without any damp or moisture having penetrated them, and without being subject to any bad smell." Lastly, Pennant (in his *Voyage to the Hebrides*) bears this testimony: "In various parts of this neighbourhood are scattered small holes formed in the ground, large enough to hold a single man in a sitting posture. The top is covered with a broad stone and that with earth. In these the unhappy fugitives took shelter after a defeat, and drawing together sods formed a temporary concealment from enemies." A most excellent paper on the use of such granaries (which might on emergencies serve for hiding places) is that of Mr. C. J. Spurrell in the appendix to the *Report of the Denehole Exploration of Hangman's Wood* (by Messrs. T. V. Holmes and W. Cole in 1887). It is entitled "Ensilage or preserving grain in pits." Knowing how damp our own climate is, and how porous chalk proves itself, many have thought that it would be impossible to store corn in a chalk pit, or one excavated in hard earth, but such is not the case. Mr. Spurrell tells us that "Bread has been made on several occasions from corn buried more than a hundred years." The process of storing is well worth noting, as it will then be seen how it preserves its sweetness notwithstanding the damp. " When corn is buried in the rock, a short or a long time, the exterior of the heap becomes more or less damp, and this either causes actual abortive germination or mere preliminary fermentation. The result is the formation of a *croûte* or cake, varying in thickness and of great density. Its hardness is so great as to prevent—after a certain thickness has been attained—the further access of humidity and oxygen to the mass, and even to permit a man to walk on it without breaking through. The corn, within, is practically self-sealed." When, however, the buried grain is required for use, it must all be taken out at once or it rapidly decomposes. Varro maintains that " those who keep their corn underground in pits take the corn out some time after they are opened, as getting into them is attended with danger when they are first opened from the confined air in them." If in the case of clay or chalk pits, good masonry or cement was used in the lining, the danger from damp would be minimised. Such underground granaries, however, indicate a rude state of civilisation and consequently the storage of but limited quantities of grain belonging to small farmers or peasants. Therefore, if we had no other argument than that of the huge size of the chambers, of the Abbey Wood or Hangman's Wood deneholes, it tells against their use in this manner; for one or two of the largest of them could easily store all the corn of a shire, but there are other weighty reasons against the storage idea. The grain pits of Morocco, Italy, Austria, Hungary, Germany, and Poland are not nearly so large, deep and inconvenient for storage as our deneholes; some are conical, others bottle-shaped, some square; some again have compartments underneath each other.

In Brittany pits have been discovered with short vertical shafts and joined together by tunnels, while Mr. Francis W. Reader informs me that the Dorset silo pits bear no similarity to the Essex deneholes, but are more like cisterns, varying in size from 2 feet 6 inches by 4 feet to 13 feet by 6 feet, and " not far under the surface of the ground." Moreover, grain pits have smooth sides, either levelled off with a tool, plastered, or, if of clay, beaten hard with a mallet to render the sides impervious to wet. Then, in these shallow grain pits is found, frequently, the charred remains of corn refuse, or blackened *débris* of vegetable matter, as we might naturally expect, but no pick mark holes or rough edges such as we find in true deneholes. Curiously enough, in some of the Dorset pits were found the remains of human skeletons, not accidentally thrown in, but as if the old silo pits had been put to a secondary use as graves. This is not the case with our true denehole, which, really, would be a most inconvenient place for sepulchral purposes. But some may say, " Have not the bones of the *bos longifrons*, red deer, as well as Roman pottery, broken burial vases, amulets, grinding stones, bone combs, spindle whorls and weights been found in them ? " My answer is, yes, in the rubbish heaps at the bottom of some of the older ones these things have been picked up, and in one, situated on an estate near Swanley, Kent, I, myself, found a hound's skull, an old iron fire grate, broken plates, tin kettles, and a sardine box; but what do such "finds" prove? Simply that the shaft was a convenient place to throw down anything that was broken or valueless, and as some of the older shafts must have been open in Roman times—"deneholes being of all ages," as Dr. Laver observes, from the time of the ancient Britons to the present day—what was to prevent the occupants of a Roman villa close to a denehole from using it as a dust-bin? Mr. R. H. Norris (son to the late Mr. Daniel Norris, of the Brickyards, Hemel Hempstead), whose additional evidence I shall refer to presently,[1] in a letter to me, says, "We had one old shaft which had been used as a receptacle for all sorts of things. It holds a fine assortment of cats, dogs, a fox, broken crockery, garden pottery, waste clay, etc. Could some of the 'fancy theory men,'" he continues, "get a section of it, goodness knows what romance they could not weave." My opinion is, that if sepulchral utensils or skeletons have been found in chalk pits, they were shallow ones of a different shape from the typical denehole, unless they were thrown down the shaft of the latter to get them out of the way. I know that the late Mr. R. Meeson, who lived not far from Grays, reported to the *Archæological Journal* (vol. xxvi, p. 191), and wrote to the author of *Stifford and its Neighbourhood* (Rev. W. Palin), that he found in a chalk cavity a lot of Roman burial vases, "which had been crushed by the fall of the roof," but I have reason to know, also, that he did not consider true deneholes as sepulchral chambers but as primitive chalk quarries, dozens of which are found all over the parishes of Stifford and West Thurrock, in which neighbourhood he spent his days. See *Stifford* (by Palin), p. 41: "I have never seen in them evidence of occupation as dwellings or stores."

In Mr. T. V. Holmes's paper[2] on *Deneholes and Bell Pits,* the talented author seems to be very adverse to the idea that these pits were excavated for chalk alone. "If," he says, "any people at any period deliberately concentrated their pits where they got the least return for their labour, and where there was no counter-balancing advantage whatever—as they must have done at Hangman's Wood and Bexley on the chalk pit hypothesis—the inference necessarily follows that the makers of the pits were lunatics." These are hard words to apply to the excavators on such flimsy evidence, but they are but a re-echo of Mr. Spurrell's opinion, "If the primary wish of the Hangman's Wood excavators was to obtain chalk, they knowingly and wilfully concentrated their efforts of every kind so as to ensure the worst and least possible return for their labour—a thing which no people, ancient or modern, ever did or will do." Furthermore, that any one holding such an absurdity displays, indeed, a knowledge of modern chalk wells, but alas! "coupled with ignorance of the nature of ancient deneholes" (p. 249 of the *Report*).

Mr. Miller Christy, of the "Essex Field Club," in an interesting article, viz., *The Deneholes* (from the *Reliquary* of April, 1895), writes in the same strain, viz. "the most frequent, though at the same the most easily refuted, theory advanced is, that deneholes are merely ancient chalk pits. No one practically acquainted with the question could possibly entertain this view. It can hardly be conceived that any community, if wanting chalk, would have dug down through nearly 60 feet of super-imposed strata to obtain it, when an unlimited supply could be obtained actually at the surface within one mile. To suppose any race of people capable of such absurdity is to discredit their sanity." Now, both these writers are esteemed friends of mine, as are several other antiquaries whose theories I cannot agree with; but at the risk of being considered "absurd" and "insane," I hold, that the men who chose Hangman's Wood, Abbey Wood, Bexley, Swanscombe and Purfleet Hill knew very well what they were about, and went the right way to obtain, in a pure, dense condition, what they wanted, viz., good block chalk, and this could best be obtained under great masses of sand such as we find in those places.[1] The fact being that chalk near the surface—just like coal—is impure, full of clay washed down with the rain through the tiny fractures, friable, and utterly unfit either for building blocks or for lime burning.

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[1] See Appendix "c."

[2] See also Appendix "a."

I feel somewhat like Mr. W. T. Vincent, the learned President of the Woolwich Antiquarian Society, did when he wrote in 1897, "It is worthy of note that the advocates of the romantic school who favour the 'habitation' and 'refuge' and such like theories all unite to load, with their heaviest scorn, the conjecture that these deneholes were made for the simple purpose of getting chalk, as there is usually some place within a mile or so in which chalk may be had almost on the surface; therefore, they say, if people dug these deep pits for chalk they must have been 'idiots'" (*History and Mystery of Deneholes*, p. 34).

To solve the problem satisfactorily we must know the various qualities of chalk (for the deposits differ much), and the various uses to which it was put, both in ancient and modern times; then, we can more readily perceive why the workmen chose to sink their pits just where they did. Chalk, we learn, was used for (1) building blocks[2] (in churches, castles and private houses, each block being about the size of four bricks and quite durable for centuries if plastered outside), (2)[3] tiles, (3) bricks, (4)[4] glass-making, (5) cement, (6) lime, (7) paint, (8) whiting, (9) road making, (10)[5] filling in foundations and walls, (11) repairing bridges and sea embankments, etc., but, in great quantities, as a (12)[6] manure upon heavy lands. The evidence for this I have gathered from no less than thirteen or fourteen shires. It was likewise exported to foreign places for the same purposes, but chiefly used in lime-burning, and, in its cold state, to improve and manure the soil. Pliny the Elder (A.D. 43–79) writing about our ancestors says, "Another kind of white chalk is Argentarium, which is brought from a depth of 100 feet, the pits usually made narrow at the mouth, internally, as in metal mines, the vein spreading out"

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[1] See Appendices "*d*," "*k*," "*v*," "*x*" and "*z*."

[2] See Appendices "*e*," "*f*," "*h*" and "Additional notes."

[3] See Appendix "*v*."

[4] See Appendix "*m*."

[5] See "Additional notes."

[6] See Appendices "*a*," "*b*," "*q*," "*h*," "*k*" and "Additional notes."

(*Natural History*, Lib. xvii). Again he says, "chalk is extracted by means of pits sunk like a well," and that "this kind is chiefly used in Britain" (*Natural History*, Lib. xvii, cap. 8). Camden (about 1610), whom Mr. T. V. Holmes rightly considers a great and sound antiquarian, in speaking of pits at Faversham (Kent) says, "I for my part cannot tell what to think of them, unless they were those pits out of which the Britons in old time dug forth chalk or white marl[1] to dung their land withal, as Pliny writeth," alluding to the aforesaid passage from the *Natural History*. Here, it is plainly observable that Camden at any rate understood Pliny to mean that the chalk was excavated from the ancient pits for the purpose of manuring the land, but we shall have more to say to Camden presently, when he comes to refer to the Tilbury pits.

Now, what authority have we for stating that the British exported chalk in the ancient days? Well, Dr. Beeby, in a clever little pamphlet read before "The Friends in Council" at Bromley in 1870, informs us that "An altar or votive stone is stated to have been found in the seventeenth century in Zealand, with an inscription showing it to have been dedicated to a goddess, in gratitude for her preservation of his freight, by Secundus Silvanus, a British chalk merchant." Many historians aver that British chalk was much prized even before the Roman invasion, and there is no reason to doubt the fact, since from the days of the Phœnicians, minerals of various kinds were sent from our shores. The next important piece of historical evidence which I adduce is taken from the second edition of (Lambarde's) *Perambulations of Kent*, published about 1576. To this I draw special attention, since it appears to be the book from which succeeding historians like Hasted, Morant, Camden, Gough and others, quote almost verbatim, but at the same time some of them omit, for reasons of their own, what I consider vital points. In the edition aforementioned Lambarde says, "There are as well in the open heath near Crayford as also in the closed grounds around it, sundry artificial caves or holes in the ground whereof some have 10, some 15, some 20 fathoms deep at the mouth and thence downwards narrow like to the tunnel of a chimney or a passage of a well; some have sundry rooms or partitions one within the other, strongly vaulted and supported with pillars of chalk, and in the opinion of the inhabitants, these were, in former times, digged for the use of chalk[2] towards building as for to marle or amend their land therewith."

Then, after, as here, giving the opinion of those who ought to know best, viz., the inhabitants of the place, he quite gratuitously introduces his own pre-conceived opinion, viz., "But I suppose they were made to another purpose also, by the Saxons our ancestors, who after the manner of their elders used them as receptacles and places of retreat for their wives, children and portable goods in the time both of civil dissension and foreign invasion. Besides that, many beasts have tumbled into them. It happened to a late noble person, in following his hawking, not without great peril of his life, to fall into one of them that was at least 12 fathoms deep." Hasted (in his *History of Kent*, p. 211) certainly gives the quotation almost in full, but Gough (in his *Additions to Camden*, 1799, vol. i, p. 214) omits the vital sentence about the "opinion of the inhabitants," and so succeeding writers, following Gough, shut their eyes to the chalk pit theory, and pin their faith to the more fanciful one put forward by Lambarde himself, who had never descended a denehole at all, and who, therefore, was unqualified to judge of their use.

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[1] See Appendices "*b*," "*e*," and "*k*."

[2] See Appendices "*c*," "*e*," "*f*," "*i*," and "*z*."

We now come to Camden's own evidence, which, so far as I can see, has been —like Mr. Meeson's—misquoted and perhaps unintentionally misrepresented. Mr. Clift, a most logical reasoner and no mean antagonist if one happens to cross swords with him, in searching the various editions of Camden, arrived, quite independently, at the same conclusion that I did, viz., that Camden cannot be cited as a witness for the granary or habitation theory concerning deneholes, but quite the opposite.[1] For instance, in the edition of his great book, as translated by P. Holland in 1637, on p. 334 we read thus of the pits at Faversham, Kent:— "Nigh thereto as elsewhere in the Countie are found pits of great depth which being narrow at the mouth and very spacious beneath have their certain distinct rooms or chambers (as it were) with their several pillars of chalk. Concerning these there are divers opinions. I, for my part, cannot tell what to think of them *unless* they are those pits out of which the Britons in old time dug forth chalk or white marl to dung their ground withal, as Pliny saith." Then, after giving Pliny's quotation, he continues: "Unless that a man should think that our English Saxons digged such caves and holes to the same use and purpose as the Germans did of whom they were descended." Here Camden favours the chalk pit theory, only giving as an alternative the granary theory, but neither he nor Lambarde had ever personally explored them. There are at least ten editions of Camden published since the first in 1586, and it was from one issued in 1607 that Gough quoted in 1789 (as those enquiring can ascertain easily).

We now come to what Camden says about the[1] Tilbury holes, viz., "Near unto Tilbury there be certain holes in the rising of a chalky hill sunk into the ground ten fathoms deep, the mouth whereof is but narrow, made of stone cunningly wrought, but within they are large and spacious, in this form (here follows a rough plan of a double trefoil-chambered denehole), which he that went down into them described unto me in this manner, of which I have nothing else to say except what I have delivered already," *i.e.*, what he had said about the similar pits at Faversham. We observe, however, in this extract that the historian in 1607 or thereabouts does not mention Hangman's Wood as part of the "chalky hill," since it in all probability grew around these holes at a much later date, long after they had been abandoned, and this is borne out by the fact that none of the trees or stumps in Hangman's Wood are of great age. But he does mention, that the steining stones "cunningly wrought" were all in position in his day. What do we infer from this? Three things: first, that Hangman's Wood, as we now name it, was not in existence in 1607, hence could not be a hiding place;

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[1] See Appendices "*x*" and "*z*."

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secondly, that the fact of the flints or steining stones being in position tells altogether against the antiquity of the pits, for in Essex flint and stone of any kind is too precious to be left for long exposed on the surface of a disused pit; some of course were found at the bottom of the shafts. Thirdly, that the place was far too open and bore too much the appearance of a lately abandoned chalk quarry (if indeed abandoned at all at that time) ever to have been even a "secret granary' or anything of the kind. There are seven or eight other reasons to follow which render such fanciful theories altogether untenable.

References to these and similar pits are given in Palin's *Stifford* and *More about Stifford,* by Mr. R. Lloyd Williams, Mr. Philip Benton and the Rev. R. H. Killick (formerly Rector of Chadwell St. Mary), but the only point worthy of note just now in these references is that mention is made of "some of them" having "a bench of chalk left round part of the bottom as if for seats."

In Mr. Benton's words, p. 40, "At the extremity of two or three was a flight of steps or ledges about 18 inches wide. The stairs or ledges alluded to seemed quite fresh, and not at all used." These ledges, which Mr. Benton and others, both before and after him, took for seats and even altars, although they, confessedly, showed neither marks of usage or inscription, have after all a very simple explanation, and some good specimens may be seen in the lately re-opened deneholes at Abbey Wood. They are simply ledges left, one above the other, in order that the workman may reach the upper part of the walls with his pick, and especially to enable him to reach the roof during the process of extending the chambers. I have seen the same ledges at two chalk mines now being worked at Plumstead, Kent, and the ledges are likewise observable at Chislehurst and elsewhere. Writing to the *Standard* about a year ago, in an article headed "The Chislehurst Cave Myth," Dr. E. A. Baker of Eltham (who, I believe, was accompanied by that very shrewd observer, Mr. A. L. Leach of "Giltar," Plumstead), mentions that "at the end of certain galleries stand deep shelves or tables of chalk." These he states "are nothing but the benches left unremoved by the miners working on the bottom canch system,[1] which means that they attacked the roof first, afterwards cutting away the mass of chalk on which they stood to ply their tools. When the mine was forsaken, probably on the falling in of the lease, some of these bottom canches were not cut away." Dr. Baker, in a letter to me this year, likewise identifies the alcoves as "unfinished galleries," and Messrs. T. E. and R. H. Forster in the article on the Chislehurst Caves (*Journal British Archæological Association*, 1904, pp. 89, 90) are quite certain that this is the correct explanation. "The fact that the system of working with a 'bottom canch' (or step) was followed in the middle mine, affords a simple explanation of the supposed altar tables.[2] They are evidently portions of the bottom canch which have been left for the miner to stand upon as he continued the working of the upper part of the chalk. In some cases the whole of the bottom canch has not been removed before the mine was given up, but, in a few cases, a few feet have been left forming a shelf or[1] table." The precise nature of these steps was brought under my notice some years ago by the late talented young antiquary and architect, Mr. Ernest Godman, who, writing to me on the subject, says, "In general nature and form the Chislehurst caves are very similar to the deneholes in Hangman's Wood at Grays, and when I was in Gloucester last I met a man from Kent, who had lived in Chislehurst all his life. The talk, which was of the general nature of a country inn conversation, was mainly antiquarian, and the old man talked of the same caves, pooh-poohing the idea of their mysterious and religious origin far back in the days of antiquity. He said he had for years as a boy—about forty or fifty years ago to be more correct—helped to dig chalk from these same pits, and that the altar about which so much talk is made was a production of his own and, I believe, of a fellow workman for quite ordinary purposes."

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[1] See Appendices "*s*" and "*t*."

[2] See Appendix "*e*."

Charles Dickens gives us a hint in one of his books as to how a false antiquity may be either accidentally or intentionally attached to any subject, but the most amusing case of the kind I am acquainted with is recorded in the *Church Standard* of 1903 thus:—"In one of the United States of America a curious stone altar was unearthed with the following letters inscribed upon it, apparently well worn with age and ill-shaped, as by some rude semi-barbarous sculptor, viz.:—

LIRPAFOTSRI
FEHTSISIHTLOOFUOHT.

"Above the mystic letters appeared some signs in the resemblance of a cross, a circle and a triangle. Woodcuts of the find appeared in several papers, and much learning was displayed in the endeavour to account for this curious 'find,' but it speaks badly for the subtlety of the antiquarian mind to learn that several weeks elapsed and many clever essays were written on the subject before the hoax was discovered."

In the *Illustrated London News* for September 28th, 1907, occurs a glowing description of the Chislehurst caves, with two sheets of illustrations and a plan of the passages[2] taken from a survey made by a mining engineer. At one side of the passages in the middle series plan I see plainly marked two "shafts," a "well," and no less than six "altars," all comparatively close together. The description at the bottom of the page reads thus:—"The earliest of the excavations are those now known as the middle series, which form an intricate labyrinth, probably constructed in Druid times for religious purposes, and possibly also for storage of grain and other valuable productions, forming at the same time temple, seminary, storehouse and refuge. In a remote chamber Lord Avebury scratched his name in 1852 upon a smoked piece of wall." On another page we read of deneholes there, and that "there are evidences that the holes were used as places of refuge and also for worship, for in the gallery are still to be seen altar tables originally druidical, but used again by refugees at the time of the Reformation. The entrance was by deep shafts, and the descent was made by notched poles or by footholes cut in the sides of the shaft." Again, underneath the photograph of a well is the information: "Ancient British well in the inner working." Now, by personal exploration in the company of others, I saw that one at least of these two shafts was lined with modern brick, and bore a very distinct resemblance to certain shafts in chalk mines at[1] Hemel Hempstead, Wickham and Plumstead, used to-day to extract chalk for brickmaking and limeburning. So I was not surprised to learn afterwards that about the year 1840 no less than five kilns were working at Chislehurst. I had found the remains of similar kilns beside chalk excavations at Eaton and Ketts Hill (Norwich), at Botany Hill, Purfleet, at the old Duvals chalk quarry and the "Dell" open quarry, Grays, and I have no doubt if search were made remains of similar lime kilns would be found beside other woods.

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[1] See Appendix "*e*."

[2] See Appendix "*f*."

Then, it is contrary to what historic evidence we have, that the Druids resorted to underground caves. Their temples were in groves, or in the neighbourhood of the old stone circles, on plains, and it is most unlikely that any set of worshippers would require six altars all within a short distance of each other. The story appears still more incredible when we find the so-called altars (*a*) form portion of the main gallery (*i.e.*, they are not separate from it); (*b*) have no special shape; (*c*) have no inscription; and (*d*) bear no mark of fire, blood or refuse.

Roman and British altars have been discovered in various parts of the country to Jupiter, Mars, Apollo, Ceres, Minerva, Victory, etc., but they are usually of certain well known shapes and inscribed with letters and designs usually representing the instruments or the animals of sacrifice, and Celtic altars one would expect to be somewhat similar, but here we have merely six benches or steps to found such a theory upon, and they still remaining as part of the wall of chalk.

The hole, at Chislehurst, at the side of one of the main passages again, is no hiding place, but a pot hole, the sand of which has forced its way through the chalk side and poured itself on the floor of the passage. As regards the little twisted tunnel leading from the outer to the middle workings which the guide shows one as a "treasure chamber of the 'Druids,'" there remains no doubt that it is, as Mr. R. H. Forster maintains, a mere trial passage or boring made by a workman to test his closeness to the second mine; in his own words, "He did not at first drive in quite the right direction, and so was forced to make a turn before he could hole through into the workings that he wished to prove." It has recently been enlarged, which serves to obscure its original object.

Mr. Reader and I found a very similar little excavation while exploring[2] Gregory's mine, Plumstead, where the workmen discovered, just in time, that one of the large galleries—if continued a few feet more—would have entered the gallery of another mine at right angles and so trespassed upon the property of a stranger. As to the Roman or British well, which I have since ascertained to have never been more than 42 feet deep, and to be only an experiment for ascertaining the water level, but not to have been used as a water well[1] at all (to leave several other points aside), my suspicions were aroused, on the occasion of a second visit, by the apparent neatness and freshness of the flint lining, and by the quality of the mortar in the lining, hence I was not at all surprised to receive the information in the following letter dated from 9, The Parade, New Eltham, Kent, September 3rd, 1908, viz.:—

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[1] See Appendices "*i*," "*l*," "*t*," and "*y*."

[2] See Appendix "*t*."

"Dear Sir,—I wrote to the *Standard* because I don't think it right for anyone to assert that they (the Chislehurst Caves) are historical. In 1845 I went, with my father and a Mr. Blundell, down into these pits, going down one of the shafts in a basket worked on an endless chain. At that time the chalk was used for making lime, and my father supplied the 'breeze' for the fires—five in number. The well in the pits was not dug before 1863, and a man named William Soaper helped to dig that well about the same time that the Chislehurst tunnel was going on, let Mr. Nichol say whatever he may choose. Mr. Edward James, of 'The Ramblers' Rest,' Chislehurst, Mr. James Twitcher, Gardener, Chislehurst, and Mr. Teesdale, Common Ranger, Chislehurst, will bear out this statement, the latter of whom worked in these pits. I am, sir, your, etc., Thomas Wood."

This, then, is positive proof that the middle series of galleries including the six altars, the lined shaft, the twisted tunnel and the well, in the middle series, are all modern, comparatively speaking, but some of the remote workings doubtless have an antiquity of several hundred years. Hence, the middle series, from the evidence, has absolutely nothing to do with the Druids, Romans or Saxons. If further proof were needed of this, I may say that in an interview with Mr. H. W. Smith, of "Earde Cote," Picardy Road, Belvedere, Kent, who assisted me in some explorations, he mentioned the fact that in his early days, about 1850 to 1860, he has seen the little lorries filled with chalk, for agricultural purposes, emerging from the side of the cliff at Chislehurst, has seen it spread in little heaps on the land, and also extensively used for the[2] foundations and floors of cowsheds, barns and farm buildings. It seems as if at Chislehurst, as in other places, the workmen first drove down shafts from the highest ground, in former times, tunnelled in several directions on a given plan, leaving vast pillars, from 15 to 25 feet square, to support the roof, and, then, at a later period, about 1850 or 1860, having better machinery available, laid down rails and put on lorries (after breaking an opening into the side of the cliff) for the sale of chalk as just detailed.

The introduction of the railway, bringing lime and limestone (which makes better lime than top chalk) into the district at cheap rates, together with the introduction about the same time of all kinds of artificial manures, caused the chalk trade and lime burners' business to cease, and in a comparatively short period the mine was forgotten until the re-opening of the approaches to the old workings a few years ago. I think with Mr. R. H. Forster and Mr. C. W. Dawson, that it is possible to trace the evolution as it were, of the primitive chalk well, with its bell shaped base (where the material was extracted with the very rudest implements) to the double trefoil denehole (with its terminal chambers, in which the barrow was used as well as the shovel and basket) and on, until we come to the elaborate chambered mines of Plumstead,[1] Wickham, Chislehurst, Norwich and Mountfield (near Battle), where the latest machinery and steam plant is used.

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[1] See Appendix "*f*."

[2] See Appendices "*h*," "*i*" and "*l*."

The brothers Forster (on p. 98 of their paper referred to previously), say, with much truth, that the double trefoil design of the typical denehole (and we have many of all sizes in Stifford and West Thurrock, as well as in Kent), "is in reality a strong confirmation of the chalk mine theory." The differences in shape which we find in them offer no obstacle as "the plain bell pit marks an earlier stage in the history of mining—earlier, that is to say, not necessarily in point of date, but in point of development, just as we find contemporary races in different stages of culture, one for instance, being in the Neolithic stage, while another is in the bronze age, and a third in the iron, so, a primitive system of mining may have existed at the same period as one more advanced." Local conditions, no doubt, had a good deal to do with it, and so conservative are some, that they prefer following in the same old rut as their forefathers, notwithstanding the general advance of the world around them.

In Brightling, for instance, the machinery is still of the very rudest description, consisting only of a wooden cylinder balanced upon the forks of two trees to act as a windlass, with curved handles of wood and a simple rope with a noose (or sometimes a wooden trugg, *i.e.*, wooden basket, at the end), to draw up the excavated material.

Although we have our electric and gas lights in common use, people still use lamps and candles in country places, and I have seen—in a remote fishing village in Ireland—fishermen use rushes steeped in herring oil, to read and work by, not twenty years ago, and, in the same place, viz., Ballyconigar, co. Wexford, have often seen the natives make their own houses, building them piece by piece, of marl and straw (or rushes), beaten together into a thick doughlike substance, with which the walls were made, and when finished, the roof was thatched, while the floor was laid down with marl and sea sand, stamped hard, and fairly level, by the feet of numbers of the neighbours who offered their services for the occasion. A top dressing of fine silver sand, acted in the place of a carpet, while a good coating of lime-wash took the place of expensive papering; and, finally, a hole in the roof performed the functions of a chimney. In our deneholes, however, we have no such evidences of their use as dwellings, no marks of fire, or smoke, or remains of food, nor cast away tools of primitive pattern, but, on the contrary, perfectly clean rough hewn walls and roof (except where discoloured by iron deposits) with abundant pick marks on the walls and no marks of rubbing or friction such as would occur if they were used as habitations or refuges. The floors are level, owing to the fact that the excavators took up the chalk according to the flat surface of the[1] "fissures," "jacks" or "slittings," and the same system was pursued in forming the roof. The workmen dug until they came to a layer or "slitting" which was fairly level and sound. This they followed along sometimes for 50 or 100 feet according to the designed length of the chamber (in denehole), or gallery (in mine), and so secured themselves against a fall of the roof, besides making the work of digging much easier for themselves, as a shovel or flat faced crow-bar introduced between the edges of a fissure, or slitting, and prised upwards (or downwards if the roof was being worked) would cause the dislodgment of a great quantity of chalk, and at the same time leave a surface as level as a table. It is the tendency of the deeper chalk to come off in layers, which gives rise to the "steps" or benches which have been mistaken for altars, and which likewise makes it easy to chop it up with a spade, or saw it into stout blocks for building (or to dry "whiting" on, as seen in the Grays Chalk Quarry Works to-day). This brings me back again to the uses of chalk, and its use, in a great measure, depends on its purity, density and chemical qualities. It is necessary to enter into this, in order to find out why the denehole excavators chose one part of a field or hill, more than another in which to sink shafts. Chalk deposits, as a rule, for the first 30 or 40 feet—unless from where 50 to 100 feet of sand and clay is superimposed[2]—show much impurity, as we saw before.

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[1] See Appendix "*t.*"

The deposit is loose and dangerous to tunnel into, therefore all the "farm deneholes," as we may call them, are small in size, with short shafts, because the farmers only took from them the material for local dressing of their own fields. At the farm of Mr. Vellacott (*i.e.*, Tunnel Farm, West Thurrock) the owner showed me a field of sixty acres where he declares that over forty deneholes have fallen in, from time to time, especially after heavy rains. Mr. F. W. Reader visited one of them in a ploughed field, the crown of which had collapsed just as the plough passed over it, to the great danger of the horse. The custom here, when a case of this kind occurs, is to put some branches across the bottom of the shaft, fill in with faggots and finish off with soil; crops are then sown on the surface, and all goes well until the next rainy season, when probably another collapse takes place. A great mass of evidence has been steadily accumulating the last fifteen years to show that seventy or eighty years ago these "farm deneholes" were very common in a great many of the English counties. Besides the evidence collected by Mr. W. T. Vincent from Mr. T. A. Hester (locating them in Oxfordshire), from Mr. F. W. Elliott (locating them in Buckinghamshire), from Mr. Buckland, Mr. C. Roach Smith, Mr. Bland, Mr. George Clinch, F.G.S., and Mr. J. T. Hatch (locating them in Kent), and the evidence of Sir John Evans, Mr. J. G. Waller, F.S.A., Mr. R. H. Norris, Mr. John Harris and others (locating them in Hertfordshire) Mr. John Parish, Mr. Philip

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[1] See Appendices "*o*" and "*r*."

[2] See Appendix "*m*."

Benton, Mr. J. E. K. Hutts and Mr. R. Meeson (locating them in Essex), Mr. James Pye[1] (in Berkshire), Lord Avebury (in Norfolk and Suffolk), I, likewise, have secured abundant facts corroborating all this, and extending the observation to Gloucestershire, Sussex, Hampshire, Wiltshire and Surrey, and I am quite sure the list of places is by no means exhausted. Mr. A. C. Blake (of "Nailsworth," Gloucester), father to Dr. F. Blake, of Grays, makes a statement as follows:—"I recollect as a young man—and having been about in several counties—that chalk was dug on the denehole plan, especially in the parishes of Greately, Cholderton, and Langley in Hampshire, also in Porton and Ramsbury in Wiltshire, besides many other parishes. It was the ordinary process pursued by the farmers, who, thus employed their men during the winter, when work was slack. Phosphates and artificial manures have now taken the place of chalk as a manure for land. The shafts were made like wells, and widened out into cavities below, the object being to get down into the chalk. In many cases the chalk was burnt first into lime, and then spread on the land, so that there were plenty of kilns about in my early days, about sixty years ago."[2]

If further proof were needed, we have the direct evidence of Young in his *General View of the Agriculture of Herts* (London, 1804), and of D. Walker[3] in his *General View of the Agriculture of Herts* (1795). A very full description of the making of farm deneholes is given in quite a new book, namely, *The Victoria History of Herts*, vol. ii, page 130, 1908, where it is said the old farmers of a century ago, having hauled the chalk up through the shafts in baskets, "dragged it out on the field in sledges, sixty to a hundred and even one hundred and fifty loads to the acre," the process being repeated according to the Essex farmers, every fifteen or twenty years.[4]

Considering that it rendered the soil drier, and more friable, broke up the clods, and warmed the land, it is not surprising to read in the *Victoria History* that "Chalking has alone rendered arable farming possible on much of this land" (of Herts). Chalk besides being more pure after the first forty or fifty feet is far more dense and weighs heavier. In order to test this I asked Mr. W. A. Brown[5] (Pit Manager at the Grays Chalk Quarry) to make out a series of calculations on the cubic capacity of a yard of chalk, at varying depths and in different quarries (Mr. Haylock, Manager of Purfleet Chalk Quarry, bearing the same testimony). I was rather surprised, I must say, to discover that, not alone did the chalk vary considerably at different depths, but it likewise varied in different quarries, in the same parish, and even in different parts of the same quarry, not two hundred yards apart. The bearing this has on the fact, that in certain localities numbers of pits are found close together can be readily perceived, for if a stratum of good solid chalk was found in any special spot, the people would be sure to sink as many pits as possible at that spot, and if a company, or large contractor for lime, rented or owned the ground, it would soon become the centre of the lime trade. This I believe to be the secret of the aggregation of the pits in certain localities, and not for any idea of using them as dwellings, granaries or places of refuge. Mr. Brown, in a letter to me dated May 13th, 1908, says "The weight of a cubic yard of chalk varies. For instance on Grays Hill Quarry (or the one on the east side of Stifford Road) it varies from the one on the west side, as much as 1¼ cwt. per cubic yard. Again the top of the cliff in Grays Hill Quarry shows 1 ton 1 cwt. per cubic yard while at the bottom (*i.e.*, 60 feet lower) it shows 1 ton 10 cwt. 2 qrs. As a rule, where the loam is deepest on the top of the chalk, it runs more solid than it does where only a few feet of uncallow lies; for instance, in one of our quarries, where there is only 8 feet of uncallow on top the chalk is much softer and less solid than in another quarry where we have 30 feet or more of uncallow on top."

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[1] See Appendix "*x.*"

[2] See Appendix "*d.*"

[3] See Appendix "*b.*"

[4] See Appendix "*a*" and "Additional notes."

[5] See Appendix "*l,*" "*m*" and "*o.*"

This is exactly what I found in every case personally investigated, both in West Thurrock and elsewhere. Mr. Brown moreover throws a very important side light upon the reasons for making the denehole chambers on the double trefoil plan, or what Mr. Forster would call the "star-fish" plan, *i.e.*, chambers radiating a certain distance (from 15 to 60 feet) from the centre of the shaft. He calls 60 feet a chalk miner's run, and any chalk excavated further off would be more costly to bring to the surface on the old style of labour, owing to loss of time in transit. "No doubt," he continues, "when the deneholes were made they had to carry the chalk in buckets or baskets, therefore it would be more economical to sink fresh shafts than to carry it an extra distance." This I believe to be the secret of the separate sets of denehole chambers; the terminal chambers of one set not being allowed to enter upon the "runs" of the other gang of men, at work in the second shaft. The same version of the reason of the aggregation of shafts with separate chambers, was given me by the workmen at Brightling where, to-day, one may see three or four sets of men at work on different pits in the same field, one set digging a shaft, another, the material below (in this case, stone, for road mending), a third, carrying away and piling up the road metal, and yet a fourth filling in old shafts with clay and rubbish. Mr. Christy and I noticed in a space of 20 acres, several hundred filled-in pits, besides a dozen open ones. In the case of the excavated chalk, besides the large quantities used on the land and for lime burning, Arthur Young, who issued his work on the agriculture of Essex in 1807, expressly says that a large quantity was sent a great distance away, and lines of chalk waggons could be seen bearing away the material along the narrow roads, the horses struggling under their burden.[1] On p. 224, vol. ii, he notes the change from the horse waggons to the lorries at Purfleet, which resulted in the disuse of twenty-one out of the twenty-five horses formerly used there, "One horse drawing five or six waggons loaded, when running on rails. Ways lead also hence for delivering the broken chalk directly to the kilns, which for this purpose are built in a deeper excavation and coals are also distributed by other ways. From the kilns distinct iron roads lead also to the shipping for delivery of the lime." From some old rate books in my possession, I find that very early indeed in the eighteenth century, and most probably in the seventeenth, a London company leased and worked the Purfleet Quarries for the purpose of sending lime to London and elsewhere for building purposes. Benton writes, in his notes on *The Rochford Hundred,* of 1,000 loads of chalk being placed on 11 acres of land: " Chalking seems to have been the rage in 1800," he says, and we know that when the seawalls round Canvey Island were re-erected in the middle of the seventeenth century over 6,000 tons of chalk were used, and thousands more to form the oyster beds or layers. Touching the chemical qualities of chalk and its effect on crops, from inquiries I made, some claim for it merely a mechanical action in helping to break up the clods, but others claim that it becomes an actual food for crops. Mr. Walker[1] (author of the *Agricultural Report for Hertfordshire*), Mr. Darwin[2] (in his report to the *South Eastern Union of Scientific Societies,* 1898), Mr. John Bannister in his *Notes on Agriculture,* 1799), Mr. W. J. Walden (Principal of the East Sussex Agricultural College), and Mr. S. A. Woodhead, B.Sc. (Public Analyst, Sussex), all say that it has valuable nutritive qualities.[3] The words of the latter are very explicit on the subject. " Calcium carbonate (chalk) is insoluble in water but if the water is charged with carbon di-oxide the calcium carbonate then becomes soluble because it is changed into the bi-carbonate. If the calcium bi-carbonate comes into contact with ordinary lime and water, it becomes changed into the carbonate of lime, which, being insoluble in water, is deposited in the same condition as it was taken up (*i.e.,* as calcium carbonate (chalk).) Below, one gets a more soluble form of chalk by reason of the precipitation above mentioned, which, when laid on land, containing organic matter, unites with nitric acid found in the soil and forms calcium nitrate (nitrate of lime) which is an actual plant food" (from Mr. C. W. Dawson's pamphlet before mentioned). This is supported by the evidence of Mr. Gadd[4] (Expert Chemist to the Associated Portland Cement Manufacturers) who in a letter to me in 1906 says, " Chalk doubtless breaks up the heavy soil mechanically, and is likewise beneficial by conversion into nitrate of calcium, the latter being a direct plant food." So much for the chemical value of the deeper chalk, and we can well understand how even the farmers would prefer the lower stratum if they could conveniently get it as well as the limeburners.

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[1] See Appendices "*n*" and "*t*."

In descending into denehole chambers a careful observer will see, that the little " flecks " raised by concussion around the edge of the pickmarks[5] remain undisturbed in position, which would not be the case if the cavities had been used for any purpose since their excavation, for the slightest friction, either of corn heads or the rubbing against them of skins or clothes, would have destroyed them. He would also see certain " footholds " in the sides of the unlined shafts, at alternate distances apart, which appear to have been used in ingress or egress. It would be exceedingly difficult, slow, inconvenient, and dangerous, for even an active man to attempt to ascend or descend a 90-foot shaft[6] by these alone, hence

[1] See Appendix "*b.*"

[2] See Appendix "*a.*"

[3] See Appendix "*p*" and " Additional notes."

[4] See Appendix "*p.*"

[5] See Appendix "*u.*"

[6] See Appendices "*c*" and "*y.*"

we cannot suppose that this was the usual mode of ascent or descent, but rather by a windlass, rope and seat as we find nowadays—or, in case the shaft was not too deep, by a ladder. Still these footholds would prove very useful, when perhaps a workman wished to reach the surface at a time when there was no one at the windlass above, for if the windlass rope was left hanging down, he could, without much trouble, draw himself to the top, using the footholds on the way. In case the chamber was so deep that he could not reach the first footholds unaided, a short ladder would relieve the situation. I am aware that Mr. Vincent and some others think that they might not be footholds at all, but perhaps sockets for timbers or "stemples," while Mr. R. H. Norris fancies that these holes might be due to the workmen putting out a foot alternately to steady the twisting tendency of the windlass rope while they were lowered, but I cannot imagine in any case, that these footholds show the ordinary mode of descent, and this is strengthened by the fact that they do not occur in every shaft.

A third point to be noticed, in exploring a denehole, particularly one long unused, is the presence of *rope marks* at the sides of the shaft, more especially at the bottom part. They can still be seen at Hangman's Wood, and more plainly still at Bexley where, from a close observation, I came to the conclusion they were scored by a strong ordinary rope and not by a rope of hide nor by one of wire. This clue reduces the plea for their antiquity too. More than 150,000 tons of chalk were taken from the deneholes at Bexley, yet no heaps of this material lie anywhere around, and the same may be said of those situate in the other woods, this, in itself, being strong evidence that the vast chambers were dug for the material and not for other purposes.[1] Not to mention the "scratchings," of melancholy interest found around the walls of the deeper holes made by the mad and vain efforts of unfortunate dogs and other animals to escape, and the various bones which lie upon the heaps of sand on the floors, none of which belong to the prehistoric animals (see[2] Mr. E. T. Newton's remarks on p. 258 of the Hangman's Wood Report) we now arrive at what I conceive to be the strongest argument of all against the theory of the chambers being either granaries or hiding places, viz., that fact that at the bottom of every shaft, in all places where the deneholes abound, lies a cone of Thanet sand of far greater volume than can be accounted for by the mere attrition of the shaft side, or of the giving way of the mouth into a funnel shape. Mr. W. H. Steadman has gone into this matter very thoroughly, in a paper read before the "Northfleet and District Scientific Society" in 1906.[3] I believe he was almost the first to notice the point. In the same year I drew the attention of several antiquaries to this fact, when I found immense heaps at Bexley and yet again at Gravesend. Then Mr. Clift arrived, independently, at a similar conclusion (*Journal of the B.A.A.*, June, 1908), and in the June journal, I gave additional evidence from Purfleet in "Notes on Deneholes." These cones of sand usually contain three times as much sand, if not more, as could possibly have broken away from the shaft, and frequently reach almost up to the roof of the cavern, spreading out on all sides below to the depth of 6 to 8 feet and, at Abbey Wood, even more. The only safe and logical opinion one can reach is, that these shafts, after the chambers were emptied of their chalk and disused in consequence, became the receptacles of all the Thanet sand and loam excavated from newer shafts which the workmen poured down to get out of the way. I will not burden this paper with the statistics of the cubic capacity of shafts, chambers, cones, etc., since they can be seen in the three papers mentioned, but I ask, if this be true—What becomes of the granary and refuge and all the other theories? Does it not show conclusively that the makers of the pits considered the empty chambers of no further practical use except as receptacles for superfluous sand and clay, just as the workmen at Brightling and at every other place where pits are concentrated, use the old pits to hold the *débris* of the new, until they gradually fill up. By all the laws of evidence this theory, as to their primary use, holds the field; hence all that has been written concerning the other nine theories (those of their use as (1) Temples, (2) Pitfalls, (3) Slave prisons, (4) Burial caves, (5) Dwellings, (6)[1] Flint mines, (7) Water wells, (8) Granaries, and (9) Refuges) vanishes into thin air, and "like the baseless fabric of a dream, leaves not a rack behind," as Shakespeare says. They become inflated bubbles like the story of King Cunaboline's gold mines. But if the primary use of deneholes, like those at Hangman's Wood, Abbey Wood, Dartford, Bromley, Erith, Woolwich, etc., be so commonplace, and the mines at Chislehurst, St. Leonards Hill (Thorpe Hamlet), Mousehold Heath, Wickham and Plumstead, are proved to be equally so—there is nothing to prevent them from having been put to secondary uses, provided we do not, as Mr. Vincent says, "Import into our conclusions as facts, the unsubstantial romance of our imagination, thereby laying the foundation for a vast amount of error."

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[1] See "Additio notes."

[2] See Appendix "*n*."

[3] See Appendix "*j*."

Amongst these secondary uses of chalk caverns, I may mention that, at Rheims, certain caves, from which millions of yards of chalk were taken for building purposes, and which had lain idle for centuries, are now utilised by certain great wine exporters, who have thousands of bottles of champagne stored there. Again at Thorpe Hamlet (Norwich)—where I was curate for three years—Messrs Thompson and Co., wholesale ironmongers, use the tunnels and cross passages in the "chalk rising" (from which upwards of 25,000 "yards" of material have been taken many centuries ago, for lime in the building of Norwich Cathedral) as storehouses, for enamelled goods and tin plates, having fixed two large doors to the entrances of the two main tunnels, the latter over 130 feet long by 10 feet high and 8 feet wide. Some few years ago, not many yards from these tunnels, a few smaller excavations were discovered, which an antiquarian declared must have been "punishment cells" for the refractory monks of an old Priory, that once existed close by, but one of my parishioners there at that time, when I asked him about the "find," said "these are the very chalk caves from which my grandfather made his money by limeburning." Finally, I see it is stated that at Mucking Wood about three years ago, some subsidences took place, apparently in the Thanet sand and gravel. The caves thus revealed were used as an argument, forsooth, to prove that—as deneholes exist in sand (as well as in chalk) at Mucking, therefore they were not excavated for chalk alone but for "hiding places" or "sepulchral chambers." Now, where the Thanet sand overlying chalk is over 50 feet deep and still has, underneath, any denehole chambers, if the crown of one or two collapse the sand is precipitated through the fracture and fills up the chamber completely, leaving overhead a hole perhaps 10 to 15 feet deep. An inexpert person, seeing only a sand hole in such case, might easily draw the conclusion that the hole was originally merely a sand hole the crown of which had given way. Just a year ago a case in point occurred not far from Palmers College, Grays, in another piece of "rising ground."

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[1] See Appendix "*q*."

One morning a man, living in a house on the road from Grays to Orsett, not 100 feet from the New Mission Hall at Little Thurrock, was alarmed to find that part of his back garden had disappeared, leaving a chasm about 18 feet deep by 12 feet in diameter, the bottom and sides of which contained nothing but gravel and sand. Then, within the next fortnight, four other holes, not quite so deep, appeared in the neighbouring gardens and roadway. It was, at first, thought that a subterranean water course might explain the phenomenon, but from the situation of the subsidences and their distance from each other, I concluded that a set of denehole chambers had collapsed, the sand and gravel quite filling them up. Acting on this surmise I caused borings to be made at various points in the immediate neighbourhood to ascertain the top level of the chalk, and found that, whereas the chalk level was much nearer the surface (*i.e.*, 16 to 18 feet nearer) in all places where the ground was not disturbed, yet from the surface to the chalk at the base of the subsidences it showed a depth of 38 to 40 feet, proving that at some time or other the chalk underneath the area of the subsidences had been excavated. I was told afterwards, that some 40 years previously, persons had taken considerable quantities of chalk from that portion of the crest of the hill to make lime. The Mucking Wood subsidences I have no doubt can be similarly explained. In fact Mr. Seabrooke and I saw, at Swanley, very similar caverns in the Thanet Sand due to purely natural causes but seemingly at first sight artificial. When at Chislehurst, just over some of the piles of sand which broke through the roof, I noticed exactly similar beehive shaped holes.

This paper cannot conclude better than with a quotation from Mr. Clift's essay (viz., *Criticism of the Hangman's Wood Denehole Report*, p. 129). "The only conclusion that is unassailable is, that deneholes of this type (that of the chambered type) were excavated for the sake of the material in which they occur, whatever its nature. In the case of the Hangman's Wood pits, that material was chalk, and no matter for what purpose the chalk was used, these pits were simply constructed to obtain it, and there is absolutely no evidence in existence which lends the slightest support to any other explanation of their purposes."

APPENDIX.

(*a*) Mr. Darwin's Report (S.E.U. of Scientific Societies, 1898); Sussex.

"The whole of this area is covered with countless thousands of pits resembling the deneholes of Essex and Kent. They represent, in fact, the usual method of procuring the limestone, wherever the stone is quarried from a depth below the surface of the ground. The workmen, who with their forefathers, have been accustomed to this industry all their lives, perform the work with wonderful celerity, the stratum of stone having been ascertained to exist near the surface, a well, about 3 or 4 feet in diameter, is commenced in certain blue and brown shales, and, usually, reaches the limestone within 40 feet, sometimes 50 or 60 feet from the surface. The cavity above the stone, is then belled out on all sides to a diameter varying with the stability of the strata. Sometimes the cavity is 15 or 16 feet in diameter, sometimes considerably more. The stone is then removed, and four small arched lateral chambers are dug at four equidistant points in the side of the bell-shaped cavity, so as to extract as much stone as the pitman dare without endangering his life. While the last pieces of stone are being removed from the pit, one of the men commences another shaft, about six yards away, so that it may be well forward by the time the other work is completed. Sufficient room is scrupulously left, to prevent one chamber encroaching too near to the other; and it is therefore necessary to adopt some regularity in their design, and so the operation is repeated, over and over again, without any variation of importance. When asked why they do not run galleries and mine the stone with timbered and propped sides, they say that the way they do it occupies less time, is least expensive, and that they work on the same general design because they know by experience that it is a safe one. Indeed the whole operation of digging a well, and getting out the stone, is only a matter of a few days and they then fill one pit with the *débris* of another."

(*b*) Mr. Walker's *General View of the Agriculture of Herts*, 1795 (New Edition, 1904):—

"The undermentioned method is pursued in chalking land and the persons employed therein follow it as a trade, viz., a spot is fixed upon nearly centrical to about six acres of land to be chalked. Here a pit about 4 feet in diameter is sunk to the chalk. The pit is sunk from 20 to 30 feet deep and then chambered out at the bottom. That is, the pitman digs or cuts out the chalk horizontally in three separate directions, the horizontal apertures being of sufficient height to admit the pitman working in them with ease and safety."

(*c*) Evidence of Mr. Daniel Margrove, aged 70, formerly foreman with Mr. D. Norris, of the Brick Kilns, at Hemel Hempstead, taken August 10th, 1908.

"I dug, or rather superintended the digging of the last shaft at Mr. Norris' kiln, in 1888. We could not find proper chalk under 80 feet. At the bottom we started, at first, with three chambers or arches only, and, after 12 yards or so, struck out some side chambers. The chambers made a run of about 20 yards, the extreme limit being 25 yards from the shaft. Any further excavating in the same direction made it too far to wheel to the shaft, made harder work for want of air, and cost the master more to dig. In each chamber there was only room for one man to work, and he went from chamber to chamber while another man wheeled the piles away which the first one picked down. I also saw bell pits made in fields for chalking the land, but where lime is required the material must be block chalk, deep down. Three men worked in a denehole one 'picking,' one 'filling,' and one 'hauling up.' Mr. Orchard, of Woodwells Farm, Hemel Hempstead, even now chalks his fields from a denehole in the winter. The lime we burnt in kilns on the spot, and sold it to people near and far; some of it went on fields and some for building purposes, but the railway spoilt the trade by bringing in limestone."

(*d*) Evidence of Mr. George Smith, worker on Mr. Redington's farm adjoining Hangman's Wood, September 10th, 1908, taken on the spot.

"I am sixty-seven years of age, and before I came here, I worked as navvy, helping to dig the tunnel at Mosley Green, Gloucester. While working at Forest Dean, near Lydney, I noticed that, about 20 feet below the surface, a vein of coal existed; and when cutting through a section for the tunnel, we frequently came across shafts and chambers in the coal. The shafts were somewhat wider than the ones in Hangman's Wood, but the chambers were much the same shape. These shafts were close together, generally about 18 feet apart. We came across about thirty within a limited space, but from the appearance I should say that they were all over the district. The curious part is, that every single one was filled up, and none of the inhabitants knew of their existence until we found them. There were no circular depressions to indicate that old shafts were once there, nor did anyone recollect hearing of coal being got out of them. Of course, the country for miles around is honeycombed with tunnels, belonging to coal mines, but very far down in the earth; none so near the surface as this first vein, and they do not now mine coal on that plan. The chambers below were like those at Hangman's Wood over there, but smaller, as the overhead soil was most unsafe and they dare not venture far in, I suppose. The chambers varied in number, sometimes four, sometimes five, and sometimes six, according to the nature of the seam. They must be very old, because there are oak trees growing over them, eighty years old or more, much older than any trees in Hangman's Wood. I suppose they did not continue the chambers into tunnels because of the foul air or black damp, or else because of the rude implements they had for conveying the coal to the shaft. With regard to digging shafts, if the soil was like that at Hangman's Wood it would be very easy work as it cuts like cheese. For instance, if I had three men with me I could excavate one of them at the rate of 10 feet a day, or a 50 feet shaft in five days. The pits at Hangman's Wood are merely chalk pits and nothing else. No doubt they sent the chalk away by water."

(*e*) The evidence of Mr. J. Twitcher, of 19, Albany Road, Chislehurst, September 14th, 1908.

"I have but very little to tell you about the Chislehurst caves. About sixty-four years ago they used to get chalk from the caves and burn for lime. A Mr. Noakes rented it, at that time. He used to employ four men to dig. The benches are there because they used to make the top beam of chalk, and then the bottom, burning the flare-burnt lime, and tunnel lime. The lime was sold to the builders and farmers. The men were paid by the day, and once there was a slip of earth that stopped the mouth of the cave up. There was a place where we could see daylight from the inside; this we called the Devil's Chimney. After the earth slipped and blocked the entrance at the side, where they used to bring the chalk out, they had to find a fresh place, outside, to get the chalk until there was another slip of 100 tons of earth, which fell and buried the tools, and then the gentlemen gave up. I am in my seventy-fourth year. There was enough chalk dug to keep three kilns going in my time. The pillars vary very much, fearing the passages might break into one another. There was one trolley which ran to take the chalk to the flare-burnt lime kiln, because it was the farthest way. The other two kilns were near to where it was dug. They used planks and barrows to these two, and picks and shovels. I knew Soaper quite well. He helped me to dig a well for Mr. Wise to supply Bickley Park (assisted by Stephen Monkton and Dick Watson). When I first knew the place it belonged to a man named Dent. My father used to keep the beershop on the top of the hill before the Imperial was built."

(*f*) Evidence of old Mr. Teesdale as supplied by W. Seares, Esq., of Manor Close, Chislehurst, September 12th, 1908.

"I was born at Chislehurst. The caves are nothing else but old chalk workings. The chalk drawn from them being used for top dressing or 'land marling,' as it is called in this neighbourhood of poor hungry soils. Sometimes the chalk was used raw, sometimes burnt at kilns, at the mouth of the caves. I remember the well in the workings being sunk. It was done as an experiment to try whether starting from a low level, the chalk could be pierced, and the water-bearing stratum reached. Two local landowners mined the chalk, whose operations ceased about 1868. Those employed were paid as labourers. This well was sunk 40 feet or so, at which point a little water, not much, was found, but no use was made of the well afterwards. I did not see any bricks made there. I had no hand in the well sinking myself, but was at hand close by while the work was in progress. I, however, worked at the digging of one new shaft, by which the chalk was tapped some quarter of a mile from the entrance to older workings; I afterwards worked at driving headings from the bottom of this new shaft, and the resulting chalk was hauled up to the surface in baskets. The new headings broke into the old workings and so the present through way was made."

(*g*) Evidence of N. W. Sears, Esq., Chislehurst. September 12th, 1908.

"Much nonsense has been written about these undoubtedly pretty old chalk workings. Our local historian, Mr. G. W. Miller, in his *History of Chislehurst*, states that the chalk quarries were worked in Saxon times and gives the '*Archæologia Cantiana*' as his authority. Be that as it may, they are so curiously extensive that they must be pretty old, but they have quite obviously never been anything else but chalk workings. In these days of roots, and other winter foods, one is apt to forget how scarce manure was in the past, when cattle could not be kept through the winter, and what the demand for chalk dressing must have been."

(*h*) Evidence of George Clinch, Esq., F.G.S.

"The *Bos longifrons* died out as late as the second century A.D. (Roman occupation), but it reappeared under another name in the nineteenth century. As for the red deer it was doubtless contemporary with the wolf in these islands and still exists in Scotland, Devonshire, Somerset, Cumberland and Ireland. Touching deneholes, even within my recollection, chalk was obtained in this way on my father's farm in Kent."

Again taken from the *Bromley Record* (of June, 1902) *in re* Chislehurst.

"The walls of the galleries in some places rise 25 feet above the floor; the width of the galleries remains practically uniform throughout. The shorter galleries, as in a coal mine, are more or less at right angles to the longer ones. 40,000 cubic yards of chalk must have been dug out, removed and converted into lime for building purposes or employed for manure for the land. They might date back to the middle ages, perhaps to the middle of the fifteenth century (or even earlier). The industry was finally killed by the introduction of steam railways there. The cuttings made when the railways were constructed, provided large quantities of chalk. Everything seems to point to the conclusion that they were constituted, not for the purpose of making subterranean chambers, but as a result of digging for chalk for making into lime."

In *Some Account of Ancient Excavations in Wellwood and Chalkpit Field, Wickham* (published 1884), Mr. Clinch says:—

"The chalk which is used in some places for improving the soil—if near the surface, is dug in the field where it is wanted, and frequently three or four or more shafts are sunk in the same field, with a view to save the labour of conveying the chalk further than can be helped. I have had the opportunity of seeing the whole process, and I have noticed that the shaft is never carried far into the chalk before it is widened and galleries are then cut out in various directions. As the workman became skilled he would probably dig deeper with a view of reaching the harder and more durable chalk."

(*i*) Evidence of Mr. R. A. Norris in the *Home Counties Magazine* for 1900.

"The method still in use for raising chalk, is to sink pits 50 to 90 feet deep, and drive galleries in all directions. Some of these galleries are 23 feet high and more to the roof. Recently, two galleries fell in, in an old and disused pit, and an old workman, who had helped to get chalk from this pit, told me, that about the spot where the fall took place the roof was worked out as big as a wheatcock, and that as the chalk in that spot came down easy, they used to have a long ladder and poke down all they could. I know of four separate shafts which have been sunk in a space of three acres, and on other brickyards in the neighbourhood the same thing has been going on probably for centuries."

In a letter to me, dated August 11th, 1908, Mr. Norris continues :—"As to contiguous deneholes not being cut into one another probably the pits were worked by different proprietors, who would naturally keep a boundary, or the pits were worked by separate gangs of men, and no doubt at so much per yard for stuff dug, as was the case in my father's brickyard. Now, gangs of men so working, are very jealous of one another, and would keep a division wall to prevent intrusion on their own particular workings, especially if one pit was easier to work than another. As to cones of earth and rubbish, no doubt this was thrown down to get it out of the way."

(*j*) Evidence of Mr. W. H. Steadman, Dover Lodge, Northfleet.

"The shafts of the Essex deneholes pass through some 55 feet of Thanet sand and have a variable diameter. Assuming a diameter to be 3 feet, the cubic contents of the shaft would be 396 cubic feet of sand, and of a 4 feet shaft, 704 cubic feet. If now, the sand found at the bottom of a denehole is the product of detrition by the atmosphere, the shaft must be gradually enlarged. Let us assume that the shaft increases a foot in diameter from this cause, say from 3 feet to 4 feet—a fairly wide assumption—then the amount of sand falling down the shaft is 704 cubic feet, less 396 cubic feet, which equals 308 cubic feet of sand. This 308 cubic feet of sand would make a conical heap at the bottom of the shaft 6 feet high, and 14 feet in diameter at the base; but Mr. Christy finds a heap of sand 25 feet high, and 18 feet in diameter. This would contain 2,121 cubic feet of sand, so that we would have roughly 1,800 cubic feet of sand to account for (viz., the difference between 2,121 cubic feet and 308 cubic feet). The question then arises, Whence comes this excess of sand ? I suggest that it was thrown down a disused pit when a new one was being sunk. This compels the admission that the old pit had no further use, neither as a refuge, nor a burial place, nor a place of worship, nor anything. In fact, that it was dug solely for chalk, and having ceased to be economical in working, it was abandoned, and made use of as a receptacle for the surplus sand from new pits."

(*k*) Evidence of Mr. William Ballard, Stroud. (Letter May 26th, 1908).

"The only explanation I can give about these so-called deneholes is that the greater part of them have been dug out to get chalk for the land. It used to be thought a good deal of at one time on the stiff loamy land; this class of land requires lime. I have one in the centre of my fields which I would have great pleasure in showing you. The only deneholes I know of in Temple Farm, have been got out for the land and brickmaking. They say they want a certain amount of chalk to make good bricks. The caves at the back of our house were got out for lime and whiting. No matter where you go, in any part of this district, there seem to be these places, got out by farmers some time in the winter months, when they have nothing for their men to do."

(*l*) Mr. W. A. Brown's evidence. Pit Manager at Duval's Chalk Quarry, Grays. August 6th, 1904.

"I feel sure they are merely chalk pits. We had some almost similar caverns in the chalk here in the works. They were from 7 to 10 feet in diameter and at the mouth just like wells. The shafts went down through the soil about 35 feet first, and then through 15 feet of chalk to the floor, forming chambers mostly round about 15 feet high and 30 feet long. I can still show you one set. They used the chalk for the land as manure, also for whiting and for building blocks instead of bricks or stone. There is a range of small houses near the railway bridge built of those blocks, called 'Chalk Row.' When not exposed to the air it was and is very durable. We have hundreds of such chalk blocks now in the works. They are cut out of larger blocks with saws and made the required sizes. They harden with time."

(*m*) Foreman Smith's evidence, Northfleet Coal and Ballast Cutting at West Thurrock, March 6th, 1908.

"The chalk is exported for white lead, whiting, white paint, etc., by the thousand tons. Last week one ship loaded up 3,000 tons of block chalk for purposes of this kind in America. The top chalk does for farm purposes or for cement, but not for particular purposes. A yard of chalk here at a depth of 60 feet differs in density from a yard of chalk at 12 feet from the surface in the proportion of 18½ to 16½ in weight. Block chalk could not be conveniently obtained by entering the side of a cliff, as the upper slittings could not be removed and the picks would break it up. Besides there would be only about 30 feet of block chalk out of 100 feet of cliff front and the 70 feet would have to be removed first.

"Our Company made a tunnel through a cliff 70 feet high from the level, the tunnel being 9 feet wide by 8 feet high and then at intervals of 50 yards, bored shafts *upwards* to the surface in order that the wagons might run in on rails to the tunnel and be loaded by pouring down the surface chalk through these shafts. The latter are not much wider than a man's waist and excavated *upwards* by a man using a small handpick and going gradually upwards by foot-holes on either side. Thus the excavated chalk fell down, instead of having to be hoisted up with a rope and basket. The flints were at one time extensively used in the manufacture of bottle glass and for glazing pottery in the north of England. Much chalk is sent from here up the Baltic, but we have many rivals now and chalk has fallen from 2*s.* 10*d.* a ton to less than 1*s.* a ton."

(*n*) Foreman W. H. Smith of Messrs. Rutt and Gutteridge's lime kilns, Maldon, Essex, September 22nd, 1908.

"These kilns have been carried on for about two hundred years, but there are two others at Haybridge, also for burning lime from chalk. Our kiln takes 19 tons of block chalk at one time, but this produces only 8 tons or so of lime, the remaining 11 tons being lost in the process, although the chalk blocks do not seem to shrink much. The carbonic gas is all burnt out leaving pure lime, with its proportion of combined silica. The harder the chalk the more the combined silica, and hence we have to obtain ours from the Medway at a good depth; it comes here in barges. The Essex chalk would not suit us, it is too soft and white, and has not enough silica, but the Medway or Kent chalk is close, hard, grey chalk with no flints in it at all. Of course it does not make as white lime as the Essex chalk, but has much greater binding power for mortar in building. The Essex stuff is chiefly used for plastering purposes, for purifying gas, for whiting and for limewash as well as for land. That is for purposes where whiteness or some other quality than strength is required. One has to go very deep in Essex for chalk suitable for builder's mortar. Limestone has even more of combined silica. Whereas the Medway chalk contains 10¾ per cent., the Essex chalk has only 1½ per cent."

(*o*) Evidence of Manager of Chalk Quarry at Burham-on-the-Medway, September 29th, 1908.

"Our cutting is nearly 400 feet deep including the 50 feet trial well at the bottom, which we sunk to find the water level merely. As you see, there are only 8 inches of soil above the level of the chalk in some places. Then comes from 50 feet to 70 feet of white chalk, full of the usual flints in layers. Then 50 feet or so of Burr chalk (intermediate between the white and the grey), then about 100 feet of grey chalk suitable for limeburning, building blocks and cement. After that 100 feet or more of a still darker chalk in very thick layers or blocks, sometimes 7 feet thick; we call this 'hydraulic' chalk because, when used in cement, it sets even under the water. No flints whatever are found in the grey, the Burr or the hydraulic layers. Flints are confined to the topmost or white chalk. The fissures are further apart the deeper one goes, hence the enormous blocks you see in the lowest stratum. Ours is one of the deepest pits on the Medway."

(*p*) Evidence of W. Lawrence Gadd, Esq., Chief Experimental Chemist to the Associated Portland Cement Manufacturers, September 25th, 1908.

"Now to answer the important part of your letter. With regard to chalk on land, and the possible presence of ammonia. This gas is produced by the decomposition of nitrogenous organic remains in the soil, and the presence of chalk might tend to fix it as ammonia carbonate, and so prevent its escape into the air, but I do not say that the chalk itself generates ammonia, except that it may keep the soil alkaline (a condition favourable for the production of ammonia from organic matter). You are quite right about the Medway chalk being harder than the

Essex chalk. The former is somewhat hydraulic, this property being imparted by the presence of combined silicates (silicate of aluminium, etc.), and if burnt to lime gives hydraulic lime, which is harder and stronger that ordinary lime, and will to some extent harden under water. Certain cements consist of rather complicated silicates of alumina and lime, so that the presence of some of these silicates ready formed by Nature in grey chalk is a kind of first step from chalk to cement. Essex white chalk is nearly pure, but its silica is what we designate 'free.' It has plenty, but in the form of flints. Now as the silica of flints is not combined with alumina or anything else it is known as free. On the contrary, the grey chalk having no flints has its silica combined chemically with lime and alumina. Flints have mostly been formed by the deposition of free soluble gelatinous silica around a nucleus consisting of a marine sponge or other lowly marine organism. In fact sponge spicules are frequently found as well as other foreign substances inside the flint nodules. We can even now, at will, by chemical action change the hardest flint into a soft jelly like water glass, and this was its condition before it settled round the sponge. The greater or less quantity of flint nodules at higher or lower depths in a chalk stratum depends on causes quite independent of chemical action. For instance, when the water was still for a long period, no doubt the formation of flint nodules would proceed more extensively than when the water was agitated or broken by waves or currents. Cements containing less than the normal amount of silica are usually very quick setting and not so strong. Those containing more than the normal are slow setting and take long periods of time before they attain their full strength. Cement manufacturers have methods of making the white chalk equal to the grey by chemical combination of that which is lacking. Chalk consists of lime chemically combined with carbon di-oxide (gas). On heating to redness the compound is split up, the gas passing into the air and the lime remaining in the kiln."

(*q*) From *Cassell's Encyclopædia* under article " Flint " :—

" No theory of flint formation is altogether satisfactory, but apparently the silica was removed in the first instance from the sea water by the action of living sponges and other organisms, and has subsequently been to some extent aggregated by a purely chemical process of concretion and replacement. It is noticeable that there is less diffused silica in the chalk nearest to the flints, and that the tabular flint occurs in vertical joints as well as along the vertical horizontal beds of the chalk. These facts show aggregation subsequent to the deposition of the chalk."

(*r*) Evidence concerning the formation of fissures in chalk :—

Mr. George Clinch, F.G.S., states that " fissures are probably due to shrinkage of the earth's crust, and consequent displacement of the layers thus formed by lateral and other earth pressure." In this he is supported by Geikie (see *Field Geology*), viz., " Undisturbed horizontal strata covering wide regions are often as regularly jointed as strata which have been folded. In such cases, therefore, we may suppose the jointing most probably resulted from the passage of earth waves through the rocks, the alternate compression and tension having been sufficient to produce fissuring."

Mr. Richard D. Batchelor, the well-known artesian well borer, writes, May 22nd, 1908:—"The chalk is a porous formation, and is practically saturated throughout as a sponge, although almost imperceptible, and when charged in this way water filters through into the fissures and from thence into the well, often into a rivulet or stream. The fissures are, of course, open, and the larger number of them appear in the upper chalk. They are frequently charged with Thanet sand, and sometimes extend for a considerable distance, they are usually in horizontal bedding and further apart in the lower chalk. Touching the supply of water we find the very same bed existing in another form, only a short distance apart. Thus in one case a small boring might give you all the water you require, while perhaps in the other case large underground works are necessary to form reservoirs (the percolation being so slow). The technical term for 'slitting' is 'fault' or 'fissure.'"

(*s*) Evidence of Mr. R. H. Forster, M.A., May 7th, 1908:—

"As my brother is a mining engineer of quite the first rank, I should think his opinion should be enough to convince most people. The evidence which has recently come to light proves that the Chislehurst mines (or at any rate one of them) are of even less antiquity than we estimated. The whole tangle arose from two assumptions. First, that they were mysterious; second, that they were labyrinthine. They are neither. It seems to me that there is not a scrap of evidence of their ever having been anything but chalk-mines, though in date they may cover a considerable period. I should like to know if the deneholes at Purfleet are on what was anciently part of the waste of the Manor. Those at Hangman's Wood certainly are. In the north of England there are traces of customs allowing the tenants in a manor to dig coal from under the waste in the manor, and I should not be surprised if something of the same sort existed in Essex with regard to chalk."

(*t*) Evidences of modern chalk-mines, by J. W. Hayes:—

"I have seen, not far from Woolwich, three chalk-mines myself in course of excavation, and the two largest bore a marked resemblance to the Chislehurst 'caves.' In one of them the lessee was bound not to widen the passages beyond 8 or 10 feet, and not to run any new gallery nearer than 25 feet to its neighbours. Thus huge square pillars of chalk are left to support the mass of earth overhead. The average height of these galleries is about 25 feet, but several are 40 feet high with arched roofs, and a few are from 150 to 200 feet long. The excavated material is used in brickmaking and is all brought to the surface by means of a shaft and windlass. To increase the size of the chambers the floor now is taken up in sections. This is called 'bottoming.' In the mine alluded to the galleries are far higher, longer, and better finished than some of those at Chislehurst, and remind one of a lofty cathedral aisle. Dr. E. Baker, Mr. A. L. Leach, Mr. F. W. Reader and others have likewise seen them. The picks used are of three varieties, *i.e.*, the usual double shouldered one, the single shouldered one, and a dressing pick with blunt broad blade. The flints in this mine are, comparatively speaking, very few, and sometimes a band of harder chalk 2 or 3 feet thick is found running through the softer chalk. The same phenomenon is observed at Aiskew Quarry, Grays, where, about 50 feet down in the white chalk, a seam of harder chalk free from flints runs around the whole quarry. This hard band would, of course, make better lime, and be much sought after for the purpose. In 1707 the Bricklayers' Company of London burnt chalk into lime at Purfleet."

(*u*) Evidence of Mr. T. V. Holmes, F.G.S., in the *Geological Magazine*, October, 1898, article "On deneholes and bell pits," p. 458:—

"It is worth adding that no attempt has been made to extract flint from a prominent band seen in each pit at Hangman's Wood 4 to 6 feet above the floor, or from any other band." Page 457: "The shafts of these groups of deneholes are extremely narrow. In some cases at Hangman's Wood we found them in places with a diameter still under 3 feet, and with the footholes at the side so little obliterated that Mr. Miller Christy ascended and descended (several feet in the Thanet sand) part of one shaft by their aid. When in use the shaft throughout must have been somewhat narrower than the narrowest part of a shaft to-day." Page 452: "The pits at Hangman's Wood are about 80 feet deep, the lowest 22 feet or thereabouts being chalk. Those at Stankey Wood and Cavey Spring average from 20 to 30 feet less. The Bexley ones are also smaller in size (judging from those we entered), averaging from 40 to 50 feet in length, while at Hangman's Wood they are 70 feet long and about 18 feet high. The height of the Bexley pits is less. The thickness of the chalk roof varies from 2 to 5 feet." In the "Report," p. 235, and onwards, we read: "The floor always has been found to be quite smooth and nearly horizontal. We have found the marks of metal picks to be equally common in the open and closed pits, their abundance and even distribution showing that these deneholes certainly owe their present forms, and in all probability their origin, to users of metal tools. In most of the pits, especially towards the roof, the pick marks look very fresh. Around many are still sticking small patches of moist chalk which, clinging to the picks, had been cast off as the blows were delivered, and had thus bespattered the walls of the chambers." (In taking casts of pick marks care should be exercised so as not to mistake, as some have done, the scoring made by a scrap of flint adhering to the pick for the striation of deer-horn tools, and so set up a false antiquity for the excavation.)

(*v*) Evidence of F. W. Elliott, Esq., *Essex Nat.*, 7, p. 224:—

At Burnham Beeches, Buckinghamshire, having visited a tile yard, he observes: "The tile yard was situated on the slope of a hill which had been cut away to quarry soil for the purposes of the trade. In the level space thus formed were five or six shafts, 4 to 6 feet in diameter, and lined with brick. Over one of the shafts a windlass was fixed. The others were deserted and overgrown with brambles, etc., but otherwise uncovered. I could not get down any of the shafts as the tackle had been removed when work had been suspended some weeks previously in consequence of a sufficient stock of chalk having been accumulated."

(*w*) Evidence of E. T. Newton, Esq., F.G.S., " Report," p. 257–8 :—

"Among the numerous bones which have been collected by the explorers I have been able to identify the following: human bones, with those of horse or sheep, pig, goat, dog, fox, cat, badger, polecat, weasel, rabbit, hare, indications of one or two birds, and parts of a toad. The only skull found is very imperfect, and the limb bones do not seem to be small enough for the *bos longifrons.* It is somewhat strange that up to the present time the deneholes have yielded no remains which indicate great antiquity, indeed all those characteristic forms which are usually met with in prehistoric deposits are conspicuous by their absence. Even if the *bos primigenius,* Irish elk and reindeer were extinct in this region before the deneholes were made (or at least before they were abandoned), one would expect to find the remains of brown bear, wolf, *bos longifrons,* roe deer or red deer. The wolf we know existed in some abundance in this country at the time of the Norman Conquest, and was not exterminated for some two or three centuries afterwards."

(*x*) Evidence of F. J. Bennett, Esq., F.G.S., 1887 :—

" Wells sunk for extracting chalk and burning it into lime are carried out in rather a different way from those for chalking land. They are often sunk to a depth of 60 feet in the chalk with flints, and then headings are driven at the bottom of the shaft. When used up another is made near, and the digging from the new pit is used to fill up the mouth of the old one, according to Luke Lowsley, Esq., of the Manor House, Hampstead Morris, Berkshire."

(*y*) Evidence of very deep shafts :—

"Mr. T. V. Holmes, F.G.S., in *Recent Geological Information about Blackheath,* 1907, mentions one 123 feet 3 inches, another 119 feet 9 inches, another 140 feet, and 4 feet in diameter, at the base of which was a chamber in the chalk, the extreme dimensions of which were 40 by 63 feet, and the height 9½. The lowest 22 feet of the shaft were cut through the chalk and it was lined throughout with courses of brick and chalk." Mr. A. L. Leach, in *Excursion to Wickham and Bostal Heath,* 1906, mentions that " the brickyards, four in number, obtain chalk by shafts 120 feet, 80 feet, and 150 feet deep. Below Gregory's Brickyard the aggregate length of the galleries is stated to be at least two miles. This mine was opened fifty years ago. A denehole discovered in the Cemetery Brickfield a few years ago ran down 50 feet through tertiaries and chalk, branching out in three small tunnels, but these ran out only a few yards from the shaft."

(*z*) Evidence of lime-burning in former times:—

Muilman, writing in 1769, says about Stifford, viz.: "From the chalk-pits in this and the neighbouring parishes very considerable trade has been carried on by several lime-kilns even to the extent of thirty miles and upwards for many years past, likewise by the farmers for manuring the land. The Kentish chalk, however is preferred for the land, as it dissolves and mellows the land better. In Chadwell are several great chalk wells [Hangman's Wood, undoubtedly] from which chalk was originally dug. Camden mentions them, so does Dr. Derham." In Gray's Quarries may yet be seen two or three old circular lime-kilns and a very interesting one at the "Dell," Grays. Mr. J. Kemp-Smith of Manor Office, Orsett, writes thus: "I have discovered in an old map of Stifford, 1762, that the field opposite the 'Dog and Partridge' Inn is called the kiln field."

Additional Notes.

Old Mr. Privit, a chalk-worker at Messrs. Brooks' quarries, tells me that "the deeper they go the stronger the chalk is," and where blocks are used for building "while they are being sun-dried we must be very careful not to let them get wet, or else if frost comes they would split into fragments. They have to be covered." Benton tells us that large quantities of chalk were used in the construction of ledgings upon the mud at the north of the Thames, such constructions being utilised for breeding oysters. In 1626 the Earl of Essex executed a deed wherein John Buck of London engaged to recover Canvey Island, and from time to time immense quantities of chalk were used on the sea wall there. Again, as late as 1872, in a breach at Foulness costing £20,000 to repair, no less than 6,000 tons of chalk were used. In the *Victoria History of Herts,* 1908, mention is made that shafts of old chalk pits are often filled, at least partially, across the mouth with brushwood and left to themselves, when, in course of time, the roots of trees growing around the edge intertwine; and with the dead leaves, etc., form a sort of cover for the hole, indicated afterwards by a circular depression called a "dell." The same fact is noted by Mr. Roach Smith, Mr. W. T. Vincent, and others. Many of these circular depressions or dells can be seen in Swanscombe, Bexley, Abbey Wood, and Hangman's Wood.

Dr. Henry Laver (President of the Essex Archæological Society), in a letter to me on the use of chalk, remarks:—

"With regard to chalking land the object is two-fold. Our clays have not enough lime in them, and what they have is a sulphate, and a dressing of chalk does good for twenty years or more. It is important that the chalk should become powdered by frosts. Then chalk is beneficial on clays mechanically. It makes the clay work better and opens it. Again, there is no question that it has a beneficial effect with regard to nitrogen, and, chemically, it removes the acids of the clays and in the words of the farmers does away with the sourness of the soil. In some farms on Foulness Island the only manure needed is chalk. Flints from the chalk have been used for arrow-beads and for the old-fashioned flint-locks, but as the surface flints (of the gravel) or the layers of flint nearest the surface in the chalk are more brittle and strike fire better than those found at a low level, any excavations made for them are shallow and irregular in shape; they must not be confounded with deneholes."

In *Man*, art. 92 (1908), Mr. W. Allen Sturge gives an interview with Canon Greenwell concerning the finding of seventy-two antlers of the red deer in the excavations known as Grimes Graves; these were used as primitive picks in pits which are far removed in shape from deneholes and where the object was undoubtedly to secure flints, not chalk.

FIG. 1.—HANGMAN'S WOOD.
Denehole 11 : Showing rope-marks and fallen débris.

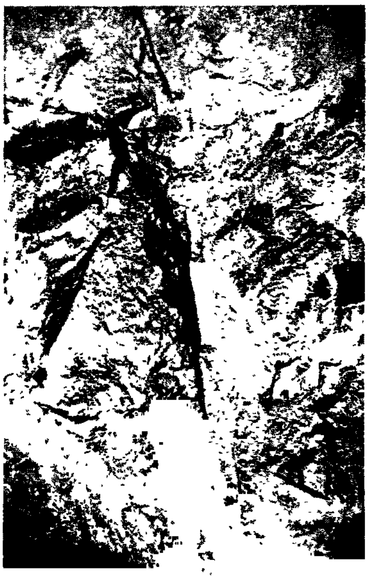

FIG. 2.—HANGMAN'S WOOD.
Denehole 5 : Pick-marks in South Chamber.

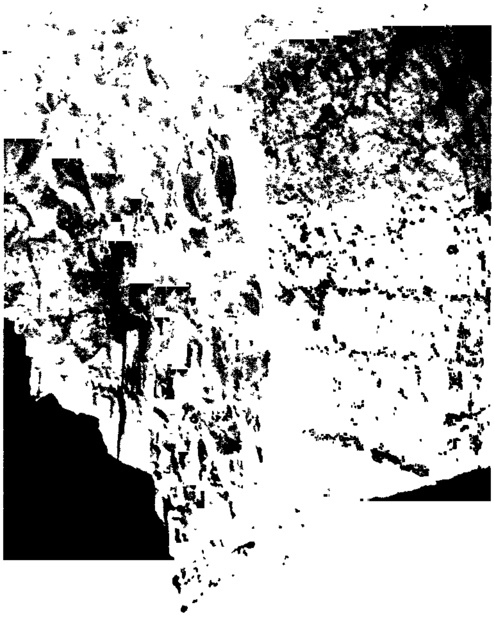

FIG. 3.—HANGMAN'S WOOD.
Denehole 11 : view from S.S.E.

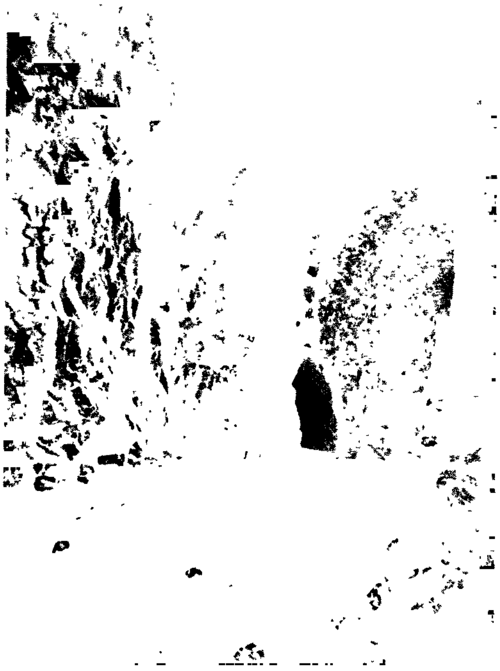

FIG. 4.—HANGMAN'S WOOD.
Denehole 5 : Chamber 22 feet high.

Photographs by S. Hazzledine Warren, Esq.

DENEHOLES AND OTHER CHALK EXCAVATIONS.

CLASSIFICATORY SYSTEMS OF RELATIONSHIP.

By A. L. Kroeber.

THE distinction between classificatory and descriptive systems of relationship has been widely accepted, and has found its way into handbooks and general literature. According to the prevalent belief the systems of certain nations or languages group together distinct relationships and call them by one name, and are therefore classifying. Other systems of consanguinity are said to indicate secondary differences of relationship by descriptive epithets added to their primary terms, and to be therefore descriptive.

Nothing can be more fallacious than this common view. A moment's reflection is sufficient to show that every language groups together under single designations many distinct degrees and kinds of relationship. Our word brother includes both the older and the younger brother and the brother of a man and of a woman. It therefore embraces or classifies four relationships. The English word cousin denotes both men and women cousins; cousins on the father's or on the mother's side; cousins descended from the parent's brother or the parent's sister; cousins respectively older or younger than one's self, or whose parents are respectively older or younger than the speaker's parents; and cousins of men or women. Thirty-two different relationships are therefore denoted by this one English word. If the term is not strictly limited to the significance of first cousin, the number of distinct ideas that it is capable of expressing is many times thirty-two. Since then it is not only primitive people that classify or fail to distinguish relationships, the suspicion is justified that the current distinction between the two classes or systems of indicating relationship is subjective, and has its origin in the point of view of investigators, who, on approaching foreign languages, have been impressed with their failure to discriminate certain relationships between which the languages of civilized Europe distinguish, and who, in the enthusiasm of formulating general theories from such facts, have forgotten that their own languages are filled with entirely analogous groupings or classifications which custom has made so familiar and natural that they are not felt as such.

The total number of different relationships which can be distinguished is very large, and reaches at least many hundred. No language possesses different terms for all of these or even for any considerable proportion of them. In one sense it is obvious that a language must be more classificatory as the number of its terms of relationship is smaller. The number of theoretically possible relationships remaining constant, there must be more ideas grouped under one term in proportion as the number of terms is less. Following the accepted understanding of what constitutes classificatory consanguinity, English, with its twenty terms of relationship, must be not less but more classificatory than the languages of all primitive people who happen to possess twenty-five, thirty, or more terms.

It is clear that if the phrase classificatory consanguinity is to have any meaning it must be sought in some more discriminating way. The single fact that another people group together various relationships which our language distinguishes does not make their system classificatory. If there is a general and fundamental difference between the systems of relationship of civilized and uncivilized people, its basis must be looked for in something more exact than the rough and ready expressions of subjective point of view that have been customary.

It is apparent that what we should try to deal with is not the hundreds or thousands of slightly varying relationships that are expressed or can be expressed by the various languages of man, but the principles or categories of relationship which underlie these. Eight such categories are discernible.

1. *The difference between persons of the same and of separate generations.*—The distinctions between father and grandfather, between uncle and cousin, and between a person and his father, involve the recognition of this category.

2. *The difference between lineal and collateral relationship.*—When the father and the father's brother are distinguished, this category is operative. When only one term is employed for brother and cousin, it is inoperative.

3. *Difference of age within one generation.*—The frequent distinction between the older and the younger brother is an instance. In English this category is not operative.

4. *The sex of the relative.*—This distinction is carried out so consistently by English, the one exception being the foreign word cousin, that the discrimination is likely to appear self-evident. By many people, however, many relationships are not distinguished for sex. Grandfather and grandmother, brother-in-law and sister-in-law, father-in-law and mother-in-law, and even such close relationships as son and daughter, are expressed respectively by single words.

5. *The sex of the speaker.*—Unrepresented in English and most European languages, this category is well known to be of importance in many other languages. The father, mother, brother, sister, and more distant relatives may receive one designation from a man and another from his sister.

6. *The sex of the person through whom relationship exists.*—English does not express this category. In consequence we frequently find it necessary to explain whether an uncle is a father's or a mother's brother, and whether a grandmother is paternal or maternal.

7. *The distinction of blood relatives from connections by marriage.*—While this distinction is commonly expressed by most languages, there are occasional lapses; just as in familiar English speech the father-in-law is often spoken of as father. Not strictly within the domain of relationship, but analogous to the occasional

failure to express this category, is the frequent ignoring on the part of primitive people of the difference between actual relatives and fictitious clan or tribal relatives.

8. *The condition of life of the person through whom relationship exists.*—The relationship may be either of blood or by marriage; the person serving as the bond of relationship may be alive or dead, married or no longer married. Many North American Indians refrain from using such terms as father-in-law and mother-in-law after the wife's death or separation. Some go so far as to possess terms restricted to such severed relationship. It is natural that the uncle's relation to his orphaned nephew should tend to be somewhat different from his relation to the same boy while his natural protector, his father, was living. Distinct terms are therefore sometimes found for relatives of the uncle and aunt group after the death of a parent.

The subjoined table indicates the representation of the eight categories, and the degree to which they find expression, respectively in English and in several of the Indian languages of North America.

		N.A. Indian.					California Indian.						
	English.	Arapaho.	Dakota.	Pawnee.	Skokomish.	Chinook.	Yuki.	Pomo.	Washo.	Miwok.	Yokuts.	Luiseño.	Mohave.
No. of terms	21[1]	20	31	19	18	28	24	27	28	24	28	34	35
Generation	21	20	31	11	13	23	24	21	27	24	22	30	26
Blood or marriage	21	19	31	17	18	26	24	27	28	24	28	32	34
Lineal or collateral	21	10	20	5	11	25	24	21	28	18	26	34	28
Sex of relative	20	18	29	17	2	12	16	21	20	20	17	18	22
Sex of connecting relative ...	0	6	6	2	0	20	13	13	14	10	14	19	21
Sex of speaker	0	3	18	4	0	15	3	3	10	2	12	10	14
Age in generation	0	3	7	2	2	2	3	4	4	4	4	12	8
Condition of connecting relative	0	0	0	0	8	1	0	0	0	0	[2]	0	1

It appears that English gives expression to only four categories. With the exception, however, of the one and foreign word cousin, every term in English involves the recognition of each of these four categories. All the Indian languages express from six to eight categories. Almost all of them recognize seven. But in all the Indian languages the majority of the categories occurring are expressed in only part of the terms of relationship found in the language. There are even Indian languages, such as Pawnee and Mohave, in which not a single one of the seven or eight categories finds expression in every term. While in English the degree of recognition which is accorded the represented categories is indicable by a percentage of 100 in all cases but one, when it is 95, in Pawnee corresponding percentages range variously from about 10 to 90, and in Mohave from 5 to 95. All the other Indian languages, as compared with English, closely approach the condition of Pawnee and Mohave.

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[1] All terms are omitted, such as great grandfather, great-uncle, and second-cousin, which are not generally used in ordinary speech and exist principally as a reserve available for specific discrimination on occasion.

[2] Terms denoting relatives by marriage undergo a vocalic change to indicate the death of the connecting relative.

It is clear that this difference is real and fundamental. English is simple, consistent, and, so far as it goes, complete. The Indian systems of relationship all start from a more elaborate basis, but carry out their scheme less completely. This is inevitable from the fact that the total number of terms of relationship employed by them is approximately the same as in English. The addition of only one category to those found in English normally doubles the number of terms required to give full expression to the system; and the presence of three additional categories multiplies the possible total by about eight. As the number of terms occurring in any of the Indian languages under consideration is not much more than half greater than in English, and sometimes is not greater at all, it is clear that at least some of their categories must find only very partial expression.

In short, as far as the expression of possible categories is concerned, English is less complete than any of the Indian languages; but as regards the giving of expression to the categories which it recognizes, English is more complete. In potentiality, the English scheme is poorer and simpler; but from its own point of view it is both more complete and more consistent. As English may evidently be taken as representative of European languages, it is in this point that the real difference is to be found between the systems that have been called classificatory and those that have been called descriptive.

The so-called descriptive systems express a small number of categories of relationship completely; the wrongly-named classificatory systems express a larger number of categories with less regularity. Judged from its own point of view, English is the less classificatory; looked at from the Indian point of view it is the more classificatory, inasmuch as in every one of its terms it fails to recognize certain distinctions often made in other languages; regarded from a general and comparative point of view, neither system is more or less classificatory.

In short, the prevalent idea of the classificatory system breaks down entirely under analysis. And in so far as there is a fundamental difference between the languages of European and of less civilized peoples in the method of denoting relationship, the difference can be determined only on the basis of the categories described and can be best expressed in terms of the categories.[1]

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[1] A tendency toward reciprocal expression is sometimes of importance and may influence the degree to which categories are given expression. Reciprocal terms are such that all the persons included in the relationship expressed by one term call by one name all the persons

The categories serve also to indicate the leading characteristics of systems of the same general order. It is obvious, for instance, that the most important difference between Dakota and Arapaho is the strong tendency of the former to recognize the sex of the speaker. Chinook is notable for laying more stress on the sex of the speaker and of the connecting relation than on the sex of the relative.[1] General differences such as naturally occur between the languages of one region and of another can also be expressed in terms of the categories. All the California systems, for instance, lay much more stress upon the sex of the connecting relative than do any of the Plains languages examined. The Plains systems are conspicuous for their weak development of the distinction between lineal and collateral relationship, this finding expression in two-thirds of all cases in Dakota, half in Arapaho, one-fourth in Pawnee. In seven California languages the corresponding values lie between three-fourths and complete expression. The method can be applied successfully even in the case of smaller and contiguous geographical areas. Of the seven California languages Luiseño and Mohave are spoken in southern California. Their systems show a unity as compared with the systems of the five languages from northern and central California. Both the southern California languages have a greater number of terms; both are stronger in the expression of the categories of the sex of the connecting relative and of age within the same generation; and both are weaker in the category of sex of the relative, than the others. Again, Chinook and Skokomish, both of the North Pacific Coast, are alike in indicating the condition of the connecting relative and in failing, on account of the possession of grammatical sex gender, to distinguish the sex of relatives themselves in many terms of relationship. There is a very deep-going difference between them, however, in the fact that Skokomish

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who apply this term to them. In the most extreme form of reciprocity the two groups of relatives use the same term. The paternal grandparents call their sons' children, whether boys or girls, by the same term which these children, both boys and girls, apply to their fathers' parents. Nevertheless, the reciprocal relation is just as clear, though less strikingly expressed, when each of the groups uses a different term for the other. Our English words father and child, or brother and sister, are not reciprocal, for the term child is employed also by the mother, and brother is used by the brother as well as by the sister. In fact the only reciprocal term in English is cousin. The tendency toward reciprocal expression is developed in many Indian languages. It is particularly strong in California. In some languages this tendency has brought it about that different categories are involved in the terms applied to a pair of mutual relationships. The term father's sister indicates the sex of the relative but not of the speaker. The exact reciprocal of father's sister is woman's brother's child. This term, however, does not recognize the sex of the relative indicated, but does imply the sex of the speaker. The two reciprocal terms therefore each involve a category which the other does not express. If the same categories were represented in the two terms, brother's daughter would correspond to father's sister and exact reciprocity would be impossible. When, therefore, the terms found are father's sister and woman's brother's child, it is clear that the tendency toward the establishment of exactly reciprocal terms has been stronger than the feeling favoring the consistent use or neglect of certain categories; in other words, the extent to which certain categories are expressed has been determined by the vigor of the reciprocal tendency.

[1] No doubt, as has been pointed out, owing to the fact that the sex of the relative is indicable by purely grammatical means in this and certain other languages.

is as free as English from recognizing the sex of the speaker and of connecting relatives, while Chinook generally expresses both categories. In short, the categories present a means of comparing systems of terms of relationship along the basic lines of their structure and of expressing their similarities and differences without reference to individual terms or details.

The reason why the vague and unsatisfactory idea of a classificatory system of consanguinity has found such wide acceptance is not to be sought in any primary interest in designations of relationship as such, but in the fact that terms of relationship have usually been regarded principally as material from which conclusions as to the organization of society and conditions of marriage could be inferred. If it had been more clearly recognized that terms of relationship are determined primarily by linguistic factors, and are only occasionally, and then indirectly, affected by social circumstances, it would probably long ago have been generally realized that the difference between descriptive and classificatory systems is subjective and superficial. Nothing is more precarious than the common method of deducing the recent existence of social or marital institutions from a designation of relationship. Even when the social condition agrees perfectly with expressions of relationship, it is unsafe to conclude without corroborative evidence that these expressions are a direct reflection or result of the condition.

In the Dakota language, according to Riggs, there is only one word for grandfather and father-in-law. Following the mode of reasoning sometimes employed, it might be deduced from this that these two relationships were once identical. Worked out to its implications, the absurd conclusion would be that marriage with the mother was once customary among the Sioux.

In the same language the words for woman's male cousin and for woman's brother-in-law have the same radical, differing only in a suffix. Similar reasoning would induce in this case that marriage of cousins was or had been the rule among the Sioux, a social condition utterly opposed to the basic principles of almost all Indian society.

The use of such identical or similar terms for distinct relationships is due to a considerable similarity between the relationships. A woman's male cousin and her brother-in-law are alike in sex, are both of opposite sex from the speaker, are of the same generation as herself, and are both collateral, so that they are similar under four categories. In view of the comparative paucity of terms as compared with possible relationships, it is entirely natural that the same word, or the same stem, should at times be used to denote two relationships having as much in common as these two.

No one would assume that the colloquial habit in modern English of speaking of the brother-in-law as brother implies anything as to form of marriage, for logically the use of the term could only be an indication of sister marriage. It is easily conceivable that in the future development of English the more cumbersome of these two terms might come into complete disuse in daily life and the shorter take its place, without the least change in social or marital conditions.

The causes which determine the formation, choice, and similarities of terms of relationship are primarily linguistic. Whenever it is desired to regard terms of relationship as due to sociological causes and as indicative of social conditions, the burden of proof must be entirely with the propounder of such views.

Even the circumstances that the father's brother is frequently called father is not necessarily due to or connected with the custom of the Levirate; nor can group marriage be inferred from the circumstance that there is frequently no other term for mother's sister than mother. A woman and her sister are more alike than a woman and her brother, but the difference is conceptual, in other words linguistic, as well as sociological. It is true that a woman's sister can take her place in innumerable functions and relations in which a brother cannot; and yet a woman and her sister, being of the same sex, agree in one more category of relationship than the same woman and her brother, and are therefore more similar in relationship and more naturally denoted by the same term. There are so many cases where the expression of relationship cannot have been determined by sociological factors and must be purely psychological, as in the instances just discussed, that it is fair to require that the preference be given to the psychological cause, or that this be admitted as of at least equal probability, even in cases where either explanation is theoretically possible and supporting evidence is absent.

On the whole it is inherently very unlikely in any particular case that the use of identical terms for similar relationships can ever be connected with such special customs as the Levirate or group marriage. It is a much more conservative view to hold that such forms of linguistic expression and such conditions are both the outcome of the unalterable fact that certain relationships are more similar to one another than others. On the one hand this fact has led to certain sociological institutions; on the other hand, to psychological recognitions and their expression in language. To connect the institutions and the terms causally can rarely be anything but hazardous. It has been an unfortunate characteristic of the anthropology of recent years to seek in a great measure specific causes for specific events, connection between which can be established only through evidence that is subjectively selected. On wider knowledge and freedom from motive it is becoming increasingly apparent that causal explanations of detached anthropological phenomena can be but rarely found in other detached phenomena, and that it is even difficult to specify the most general tendencies that actuate the forms taken by culture, as the immediate causes of particular phenomena.

The following conclusions may be drawn:—

1. The generally accepted distinction between descriptive and classificatory systems of terms of relationship cannot be supported.
2. Systems of terms of relationship can be properly compared through an examination of the categories of relationship which they involve and of the degree to which they give expression to these categories.
3. The fundamental difference between systems of terms of relationship

of Europeans and of American Indians is that the former express a smaller number of categories of relationship than the latter and express them more completely.

4. Terms of relationship reflect psychology, not sociology. They are determined primarily by language and can be utilized for sociological inferences only with extreme caution.

SOME MONTENEGRIN MANNERS AND CUSTOMS.

By M. Edith Durham.

[With Plate XII.]

The great Servian Empire of the middle ages, which included the whole of Servia, Macedonia, Bosnia, the Herzegovina, Albania and Montenegro and held Bulgaria and Thessaly as vassal States, had a fatally weak point in its construction; the peoples of which it was compounded were all in the tribal state of a nation's history. It was a huge unwieldy mass of rival clans each led by its own chieftain. Only a very strong man could drive this mixed team on the curb, and Stefan Dushan, the Napoleon of the Near East, was the strong man.

Had he lived to consolidate his work it is possible that the fate of the South Slavs would have been very different, and the Serbs might have been the predominant race in the peninsula. He planned to seize Byzantium and to keep the Turks from Europe. But he died in 1356, in the height of his fame and power, when on the march with a great army which he had raised for the purpose. His only son was too young to succeed him, and the Great Serb Empire was speedily torn to pieces by rival chieftains, and finally shattered by the Turks at Kosovo in 1389.

The men of the plains had to succumb. The mountain men of the west side of the peninsula, both Slav and Albanian, took to the heights and defended themselves. The handful that belonged to the Servian Orthodox Church and took to the mountains that are now known as Montenegro were the ancestors of the present Montenegrin tribes. Isolated from the world and occupied mainly by fighting (for the whole of the five centuries that followed were a long struggle for independence), they clung fast to their national customs, and we thus have the curious example of a community constructed on quite primitive lines at the beginning of the fifteenth century, and surviving to be recognised as a nation by the Powers at Berlin in 1877.

That they did so survive, the Montenegrins owe to the fact that, in a lucky and inspired moment, they chose the head of their church as the national leader. No temporal power has as yet succeeded in welding the South Slavs together for long. But the spiritual power of the Prince-Bishops of Montenegro seems to have had a quite extraordinary influence on the superstitious people. The Vladika was regarded as God's vice-regent and his curse dreaded above all things. The Prince-Bishop was celibate and chose and educated his successor from among his brothers' sons. In this way a remarkably capable series of rulers was produced, and the nation built up.

Till 1877 they had led an extraordinarily primitive life. They were suddenly called on to leap at one bound into the nineteenth century.

Montenegro is now changing rapidly. Too rapidily. Modern and Western ideas are poured into mediæval minds that are totally unable to assimilate them. The vices of what is called civilization are easier to learn than its virtues. Emigrants are now returning often horribly debauched from America. America just now is the Eldorado of the Balkan man, and has a most fatal effect upon him. And the outlook is bad.

But the tide of change is not yet thirty years old. Up country things have as yet changed very little. The older generation for the most part can neither read nor write; has marvellous memories, and stores of oral tradition.

I do not want merely to give a string of such customs as I have picked up. Many of them would not be new to you. I want to make you see the living soul of a primitive people. To look on the world through their eyes. I will give the plot of a ballad, a tale which I heard on the actual spot. The event took place in the eighteenth century, but is still fresh in the mind of the people. It is one of a vast number of similar ballads that come up to modern times, and gives a good idea of life up to thirty years ago.

THE AVENGING OF BATRICH PEROVICH.

Plot of the Ballad.

Batrich Perovich of the Montenegrin clan of Cuce has sworn brotherhood with a Moslem, Osman Chorovich, who betrays and kills him. His old father Pero is in despair, but his brother Radule and his men go to seek blood vengeance. They kill thirty, and in the end slay Osman. The vengeance being now complete they return home, and the old father cries, " So nobly hast thou avenged my Batrich, it is as though thou hadst brought him back with thee ! "

In this way the whole history of the people has been handed down from the middle ages. Every village almost has its hero and sings of him. The nights that I have spent round a fire listening to the monotonous minor chant, are nights I can never forget. The buzzing twangle-wangle of the one-stringed *gusle* (Plate XII, Fig. 3); the growing excitement of the singer, whose voice rises to a hoarse roar, the veins of his throat stand up in cords; the sweat pours off him. He kills his last Turk with a yell and flings the *gusle* on to the next man, quite worn out by the emotions he has lived through.

The opening of this particular ballad is a stock ballad opening occurring often.

The white fairy or *vila* is the mountain spirit of the Servians. Vilas undoubtedly existed a long while ago, I have been frequently told. The invention of guns frightened them and they took to the huge underground caverns that are common in Montenegro. "This is where the *vilas* used to live," I have often been told. *Vilas* were extremely capricious, often very useful and friendly and at other times unreliable. The celebrated hero Kraljevich Marko, who flourished in the fifteenth century, was sworn brother to a *vila* who frequently saved him from enemies by sending down a mountain mist. *Vilas* also were in the habit till recently of warning the Montenegrins of the approach of the Turks. *Vilas* were extremely beautiful and " beautiful as a *vila* " is the usual expression of to-day. They could also be very spiteful. A *vila* would amuse herself by appearing as a beautiful maiden and inducing two young men to fight about her. When one or both were mortally wounded, the *vila* laughed and flew away. They were also very jealous and often slew very handsome youths to prevent them from marrying mortal maidens.

The serpent one also hears of often. There seems a pretty general belief in a large serpent of some kind that lurks in recesses in the mountains and is of vast size. At one place I was told it was impossible to swim across a certain lake, because when a man got to the middle he was certain to throw up his arms and sink. The serpent of the lake dragged him down. My usual guide has a decided belief in serpents. He shuffles out of it if you put it straight to him. But a few days after a serpent crops up again as a possible explanation of a stream having run dry or something of that sort.

" Has the falcon swooped upon a bird ? " The falcon, too, played a considerable part in Montenegrin affairs, the *sivi soko,* the grey falcon. Every Montenegrin is a *sivo soko.* I am, too, when I do anything that is considered brave. The falcon carries messages in the old ballads. The raven always brings bad news. In another version of this ballad which I picked up, the news of Batrich's death is brought by ravens to his mother, who sends out Radule.

Batrich is a member of the Cuce (Tsutse) tribe. When the events narrated occurred, this was a frontier tribe (Montenegrin territory has since been considerably extended on that side). The neighbouring tribes of Grahova and Baniani were then still under Turkish dominion. Cuce and Bijelice had already migrated out of the Herzegovina, then Turkish, and had been settled by the Vladika Petar I on Montenegrin soil.

There are now between forty and fifty tribes in Montenegro. They have each a distinct tradition as to their origin. As an example, take that of the clan I have lived with most, Njegushi.

Njegushi takes its names from Njegush, a mountain of the Herzegovina (included now by the Treaty of Berlin in modern Montenegro). The western side of Montenegro is largely composed of tribes which shifted out of the Herzegovina into the more inaccessible Montenegrin mountains. The tribe Njegushi traces its origin thus. A man called Punosh came first, presumably with his family and belongings and settled at Dugi do (*lit.* the long valley, a valley which now lies deep below the carriage road leading to Cetinje); Punosh is reputed to have come in the fifteenth century; dates are vague. From him spring all the present inhabitants of Dugi do. It consists now of about sixty houses, seven or eight of which are still Punoshoviches. The others, though they have differentiated into family groups with different names, all trace descent from Punosh. My guide, Krsto Pejovich, belongs to Dugi do, and on the 9th of March last year (1907) I was there on Zadushnja Subota (All Souls' Saturday). We made tapers by rolling beeswax round cotton cord, and stuck a lot of them all round the edge of the *sofra*, the little round table. On the table was boiled wheat (*panhardija*), and wine. He then censed the *ikon* (there is of course an *ikon* in every house), lit all the candles, prayed and then poured the wine on the wheat.

I then went to church with all the men of Dugi do. Dugi do has its own church. Everyone brought wine and boiled wheat or bread. We burnt quantities of tapers. Then, after a mass, Pop Gjuro, the priest (Plate XII, Fig. 1), stood at a table facing the Ikonostasis and read the names of the deceased in all the families of Dugi do since the tribe began. These were handed him in little books or folded parchments. We began at Punosh and it was a long job; of course we ate wheat for their souls. The lists were mere strings of Christian names and no genealogies could be traced on any that I saw. Only quite recently did any women's names occur in these lists. Some of the Punosh lot live in Kopita, another small village of clan Njegushi. The bulk are at Dugi do.

Next after Punosh, quite soon after, also in the fifteenth century, came two brothers, also from the same place as Punosh. What relation they were to him I do not know. These brothers were called Jerak and Raich. From these we get the two largest groups of the tribe, the Jerakoviches and the Raichoviches.

These again are subdivided into many family groups or *Bratstvos*. The present Prince's family, the Petroviches, belongs to the Jerakoviches. That some of these groups or *bratstvos* must have been both pious and wealthy is shown by the fact that though the whole tribe is vaguely reckoned at between four and five hundred houses, it possesses no less than seventeen churches, two of which stand side by side.

Last of all to settle was *Vrba* (literally willow), the village of Vrbica being the first large group of houses you come to on entering Montenegro.

There are four other tiny villages scattered on the mountains which also belong to one or other of the above mentioned groups and that is the whole *pleme*. It is an extremely proud *pleme*, for it not only contains the Royal family, but it is the only one that can boast that no Turkish army has ever penetrated its territory. It owns the large mountain, the Lovćen, and has a large plain in its midst, but all the old settlements are on the sides of the mountains surrounding the plain. I was told that this is because when the first settlers chose their sites the plain was full of water, but that it burst through underground and all ran away. This is an interesting tradition as the plain is an undoubted lake bed. I do not know of a lake being marked on any early map, but it is not likely the people could have invented the tale.

A man may marry within his *pleme* but not within his *bratstvo*. The *bratstvo* in old days consisted of cousins to the n*th* degree, but in the nature of things it became necessary in time to subdivide large *bratstvos* in inter-marriageable groups.

At the present day in Montenegro the *bratstvo* does not go beyond third cousins who may marry. But the feeling against marrying one's blood, as it is called, is still very strong, and the *bratstvo* of Drekalovich in the Kuchi *pleme* boasts that it has never yet married a drop of its own blood. It consists of about a hundred houses, and has only just now been divided into inter-marriageable groups. The *bratstvo* held together very strongly. In case of the murder of one member the whole *bratstvo* flew to arms. The ballad of Batrich illustrates this. In such a case as Batrich's, the feud would very likely last for years, or even generations, Chorovich's family being Moslems and enemies. Should, however, a case of blood vengeance occur between two *bratstvos* in the same *pleme*, the heads of the *pleme* intervened speedily to prevent the loss of the fighting men of the tribe; several had generally been killed or wounded. The two *bratstros* were sworn to keep peace, usually till the next important saint's day. The vow was renewed a second time and also a third time if the parties had not yet become reconciled. When it came to the third time a day was fixed for the judging and settling of the case. Tribe law was called the decree of the good men, *Sud Drobrih ljudi.* The good men were the heads of *bratstvos* and of all the households, the head of the whole clan, and the priest, twenty-four in all. They were summoned by the plaintiff. The defendant had a right to object to any of them. They met always on a Sunday morning outside the church. All the men of each *bratstvo* involved usually appeared. The good men were well versed in all the traditional law. They heard the evidence and estimated the damage. " A head," that is, a dead man, was valued at 120 ducats, I believe about £60. A " blood," that is, a wound, was reckoned at 10 ducats, at most. A dead man thus was equivalent to twelve severe wounds. In this way the account was balanced, a " head " on one side balancing one on the other. Wounds were valued according to severity and a bill made out. The good men wrote and sealed their verdict in some such form as this: " We, the undersigned head men of X, having considered the case of so and so, do unanimously decide . . . here follow the details, and we decree, etc. This on our souls, we find to be the best way of restoring peace according to the customs of our land and the most honourable, and who differs from us is no brother of ours." The sentence included in such a case not only the fine to be paid, but all the ceremonies to be gone through to ensure reconciliation. In Montenegro, until recent times the word " friend " had not the English meaning. You could not be the friend of a man to whom you were not in some way related. If you were not a friend you were, of course, a possible enemy. It is possibly on this account that blood relationships were traced to such great lengths. It undoubtedly made for peace, and a crowd of imaginary relationships were brought about by marriage, and classed as blood relations. Relationship was and is divided into five classes.

1. The blood of a man's *bratstvo* as above.
2. The blood of his wife's family and that of his brother's wife.
3. The family of his wife's brother's wife.
4. *Kumstvo.*
5. Adopted child. About this latter I know very little. I am told it ranks exactly as own child.

The various relationships are very much more accurately named than in most European languages. For instance, a man's wife's brother is his *šura.* A woman's husband's brother is her *djever.* A man's sister's brother is his *svak.* The husbands of two sisters are each other's *pašanak.* All of which we class together as brother-in-law.

LIST OF WORDS USED TO DENOTE VARIOUS DEGREES OF RELATIONSHIP IN MONTENEGRO.

Grandfather, *djed.*
Great uncle, also *djed.*
Great grandfather (or uncle), *pradjed.*
Grandmother, *baba.*
Great grandmother, *prababa.*
Father, *otac* (*otatz*).
Mother, *majka.*
Brother, *brat.*
Sister, *sestra.*
Uncle (on father's side), *stric* (pronounce *stritz*).
His wife, *strina.*
Uncle (on mother's side), *ujak* (*uyak*).
His wife, *ujna.*
Aunt (father's sister and mother's sister), *tetka.*
Husband, *muž.*
Wife, *žena* (this is also woman), or *Nevjesta.*
A man's wife's brother is his *šura.*
The *šura's* wife is a man's *šurnjaja.*
A woman's husband's brother is her *djever.*
A woman's sister is her husband's *svast.*
Husband's sister is his wife's *zaova.*
The wives of brothers are each other's *jetrva.*
Husband's mother is his wife's *svekrva.*
Wife's mother is her husband's *punica,* or *tasta* (or *tašta*).
Wife's father is her husband's *tast.*
Brother's wife is a man's (or woman's) *snaha.*
A man's daughter-in-law is also his *snaha.*

A brother's child is *bratanac* or *sinovac* (masc.), *bratanica* or *sinovica* (fem.).

A sister's child is *sestrić* (masc.), *sestrica* or *sestričina* (fem.).

A grandchild is *unuk.*

A man's sister's husband is his *svak* (*zet* is also used but means also son-in-law).

Son-in-law, *zet.*

First cousin, *rodjak* (fem. *rodjaka*), or *bratučed* (lit. brother's child)

Second cousin, *drugi* (2nd) *rodjak* or *bratučed.*

Third cousin, *treci* (3rd) *rodjak,* etc.

Any member of the *bratstvo* (cousins to the n*th* degree) is another's *bratstvenik,* and they all address each other as brother.

A daughter of the house married away into another clan is *odiva.*

A man's wife's child by a previous husband is his *pastorak* (masc.), *pastorka* (fem.).

The husbands of two or more sisters are each other's *pašanak*

Stepfather, *očuh.*

Stepmother, *maćeha.*

Stepbrother, *polubrat* (*i.e.,* half-brother).

Stepsister, *polusestra.*

RELATIONS FORBIDDEN TO MARRY.

1. The blood of the family (*bratstvo*).
2. The blood of the wife's family and of the brother's wife's family.
3. The blood of the family of the wife's brother's wife.
4. *Kumstvo.* Ranks as family blood only in direct line of descent. The kum's brother's family is no relation to the god children.
5. Adopted child (this ranks as family blood).

Kumstvo, the remaining forbidden degree to be considered, is best translated as godfatherhood. This is a very binding relationship. The godchild ranks as own child and is therefore not intermarriageable with the godfather's children. Nor are the direct descendants intermarriageable. As all the godchildren of a man are considered each others' brothers and sisters and rank exactly as blood-relations, it is usual to have but one godfather for a whole family or relationships would be frightfully tangled. In reconciling a blood-feud, it was the custom of the good men to order that several children of the guilty *bratstvo,* should have members of the other *bratstvo* as godfathers. Should there be some young unchristened infants all ready they were brought at once, and forthwith christened. It was customary to postpone baptism of a child till thus needed. Blood-relationship was thus established and the parties became allies instead of enemies. A grand feast followed.

If the good men were unable to settle a case satisfactorily, it went before the prince, who was the supreme court of appeal. It is only some eight years ago that the present prince resigned this post. I once saw him on a Sunday morning sitting in front of the church hearing a case. Two men, Turkish subjects, had tramped from across the border to beg his opinion on a blood-feud. I was told that finally he got them to swear reconciliation.

The good men no longer try criminal cases, but the heads of a *pleme* still decide purely tribal business, such as wood-cutting rights and so forth, and mee outside the church.

Many people will still tell you that the good men administered justice in a far better manner than can be done by a modern law court. They knew all the parties concerned, and justice, not merely law, was the result. They used, when they thought fit, to deal with all manner of possible side issues. The Austrians in Bosnia had, at the beginning, more than once to summon the good men to decide cases that the Austrian courts were quite unable to unravel, as they depended upon a mass of local custom.

The next point of interest in the ballad is that Batrich had sworn brotherhood with Osman. *Pobratimstvo,* or sworn brotherhood, was till recently very frequent among the South Slavs. In Montenegro it was sworn in church before a priest, except in the case of a Moslem. Women could swear *posestrimstvo.* I heard a case of this when in Bosnia the year before last. A Servian lady whom I know does a lot of relief work among the poor in outlying villages. One day a woman from one of these villages came down to the town greatly excited and claimed the lady as *posestrima.* "Last night," she said, "I had a most terrible dream. A great serpent came, and was going to devour me. I saw you in my dream and called on you as my sister in God, to save me. And you saved me, and I have come to ask you for *posestrimstvo.*" The lady accepted the relationship and the peasants call regularly and recently invited the daughters to a wedding, saying, "You must come to your cousin's wedding." *Pobratimstvo* in Montenegro has not carried blood-relationship, so far as intermarriage is concerned, within living memory, nor has the bond been ratified by exchange of blood, so far as I can learn. In North Albania, however, it still carries full blood-relationship; and blood is exchanged when taking the vow.

The old father Pero on hearing of Batrich's death tears at his beard and eyes. Face-tearing is now prohibited by law in Montenegro at funerals, but is still done in out-of-the-way places. I have seen a case. A youth, Stevo, cousin of my guide, died in Manchuria (he was with the Russian army), when I was living at Dugi do. The poor lad had been in his grave six months when we got the news. But, (with the exception of course of the burial) all the usual rites had to be carried out.

The boys were sent out to all the villages to tell all the tribe the day fixed for the mourning. We roasted and ground the coffee at our house. My tribe has made a rule to give no *rakija* (spirit). The old mother of Stevo was not told of his death, but sent on a visit to her married daughter, that she might not see the funeral preparations till all was ready. I was horrified at this, but was told that if she knew she would begin to cry at once, and that as she was very old she would then be too exhausted to wail in public on the proper day. On the morning of the day we went to the house of Labud, Stevo's elder brother, and there a *trpez* or table was arranged. That is, that in default of a body to mourn over, a dummy is made. Coat, waistcoat, knickerbockers, white gaiters and leathern sandals are laid out on the table in the semblance of a man and girded with the sash and weapons. A cap is laid where the head should be. I have seen this more than once. The forlorn emptiness of the man's actual clothes give an almost more poignant idea of loss than the actual corpse. Early on the day of mourning came all Dugi do, the sons of Punosh. They all met up by the church, and came in procession, all the men first and then the women. When within a hundred yards or so of the house they raised the death wail; an awful wailing rhythmical chant. You can hear it miles away.

Lé lé s'nama Stevo moji brate!
Lé lé s'nama moj' krilati brate! etc.
Woe, woe to us Stevo oh my brother; woe, woe to us, my wingèd brother!

The cry is taken on a quick breath which rapidly becomes a convulsive sob. The procession arrives in a state bordering on frenzy. I knew most of these people well. I confess I was almost terrified when they dashed into the little dark cottage; I was just inside the door. I went indeed as one of the family. The men hurled themselves into the room. I ran into the corner or I believe they would have gone right over me quite unconsciously. They danced madly in front of the *trpez,* leaping a yard from the ground, thumping their heads and breasts with their clenched fists, and yelling frightfully. The tears streamed from them. They threw themselves on the dummy body, almost fighting to kiss it. Behind the table were the aged mother supported by her two married daughters. The younger, a most beautiful woman, had ripped her face down with her nails and, sodden with blood and tears, was, with her mother and sister, singing the praises of the dead boy. These songs are improvised, but contain a great number of stock phrases (they are called *tuzenje*).

The men were allowed some five minutes (a howling orgy of grief), then Pop Gjuro, who was master of the ceremonies, cried, "Brothers! you have wept enough. Make place for others." They withdrew, some reeling with exhaustion. Pop Gjuro caught all those that were far gone and handed each a cup of strong black coffee as a stimulant. The women came in next and the same ceremony was gone through, but they did not jump. The three women behind the table sang incessantly in a kind of awful possession, apparently unconscious of all that went on.

And so, village by village, came the whole *pleme.* And not only the people on the spot, but all the married relatives, even those from Cetinje, a long four hours' tramp across the snow.

The odd part of this is the mechanical way in which tears are caused by the mere fact of *Lé Lé Léing* (*naracanja*). The Vrbica men mostly did not know the poor boy's name and had to be coached in the details before beginning to wail, but within a minute or two of beginning they were sobbing bitterly. Coming home people compared notes as to who had cried best.

In former days when the Montenegrins shaved their heads and wore a long crown-lock only, it was customary to cut off this lock and to throw it into the grave. Women also cut off their hair. I have seen a long tress of a woman's hair fastened to the wooden cross on a grave in the Herzegovina.

Apples were, and I believe are, thrown into the grave. In the Herzegovinian parts of Montenegro, oranges, bits of bread and quantities of rags, fragments torn from the mourners' clothing, are always put on the graves at the present day, hung on to a young tree put at the head of the grave. I have been to several *trpez* funerals, but have not been to all the ceremony when there was a corpse, as I should have had to kiss it, and could not have evaded doing so without hurting the relatives.

I have seen an interment from a distance. The end is most impressive. All the *pleme* stands round the open grave. The elder calls aloud on the deceased by name. "Marko! Marko! Marko!" Hails him loudly and pauses for a reply. Then, after a long silence, the whole lot shout together, "Goodbye, brother," and turn away from the grave.

The only point left to be touched on in the ballad is that of head-hunting. This primitive custom was common to all the Balkan people, both Christian and Moslem. It is a very deeply rooted custom, and is not yet extinct. My own guide is bitterly ashamed of the fact that he did not get a head in the '76–'77 war, and urges that he was "only sixteen" at the time. He confessed it reluctantly and added, "I wish you hadn't asked me." Of course, it is illegal now in Montenegro to put heads on sticks as formerly. But I heard of heads on sticks in North Albania in 1904—Montenegrin heads taken on the frontier. There were any amount of heads taken in the last war by all parties. The Bishop of Kastoria in South Macedonia brought head-taking quite up to date in 1903 by having the head photographed afterwards, and sending copies to his friends as Christmas or Easter cards—I forget which. I met this right reverend gentleman—an olive-skinned, black-haired, rather slit-eyed man with a sloppy lower lip.

I have no doubt that Osman's head ornamented old Pero's roof tree for many a day, and afforded him great satisfaction.

So much for the ballad. In sitting round the fire of an evening one picks up a lot of miscellaneous beliefs and ideas. I will give some examples. It is difficult to know which to choose. In the Crmnica valley when a bride is waiting for the groomsmen to fetch her away to be married it is the duty of her brothers to stand on either side of her and watch that no evil-intentioned person ties a knot in the fringe of her *strukka* (long shawl or plaid). Should this happen her first child will be born deformed, or she will miscarry. In all districts it is most unlucky for her to look back when leaving her father's house. The groomsmen have to take care that she does not. A woman who is with child and craves for any particular food must beware not to touch any part of her body with her hand. For, should she crave for milk and touch her hair the child's hair will be white; should she crave pork the touched spot will be covered with pig's bristles, and so forth. A woman can tell if her child will be a boy or a girl by throwing a dried fish bladder on the fire. If it go off pop there will be a boy; if it only fizzles out, a girl.

Three days after the birth of a child a woman is supposed to be fit to go out and fetch and carry wood and water as usual. She may not make bread or cook till the child has been christened and she churched. There are great rejoicings when a boy is born and great disappointment over a girl. In some places all the men of the *bratstvo* go to the woman's room the next day and drink and dance and sing to welcome the arrival of another male. I am assured the newly-made mother enjoys this extremely. I heard of this in old Servia, just over the Montenegrin frontier.

Medicine was and is largely practised by wise women. Every disease, they say, has its plant. Most of the remedies are herbal. Burn oak apples and breathe smoke for a cough. The following, I am told, is excellent for pneumonia. Take a dried gall-bladder of a pig and pound it up; mix it with gunpowder and drink it in strong *rakija.* This is very powerful, I was told by a man whose life, so he said, had been saved by it. The whole company had great faith in the prescription.

The wise women of the Crmnica valley have an odd cure, or rather charm, for rupture. The wise woman puts some water, which must be freshly drawn, into an *ibrik* (long-necked metal pot). She puts it on the fire and crosses it three times. When it boils she says, "Water, I call on you three times from Heaven to earth. If Mr. So and So of such an address is ruptured, let his bowel return like this water." So saying, she turns the boiling water out into a metal dish, and holds the *ibrik* mouth down in it. As the hot metal pot cools some of the water rises again into the *ibrik,* the more the better. A fee of 2*d.* is asked, and the operation should be repeated till relief is obtained. It is usual also to give the operator some eggs or a cheese to induce her to begin.

Native surgeons have a great local reputation for dressing wounds and setting bones. The traditional way of dressing a wound is remarkably antiseptic. It was on no account to be washed with water, but cleaned out several times with strong wine or *rakija.* I have the contemporary account of a duel fought with handjars in 1853 with the description of dressing the wound, a great sword cut that severed three ribs. This was washed first with white wine. A lot was poured in, and the man rolled backwards and forwards. An old man I know entertained me all the evening with the details of how he was shot through the lungs at the battle of Vučidol in 1876. He was taken to the Russian field hospital, and was very bad. Got worse and worse. "The Russian doctor then said he must cut another hole in me between two ribs. I had two holes already, so I thought it very stupid. I knew I should die if I had another hole in me. I asked the black sister to tell my people to save me. They came in the night and carried me away. I was so thin my wife carried me like a baby. They poured *rakija* in at my top wound. It made me cough most dreadfully. Some of it ran out of the other hole. The black sister came and put the bandages on. They poured *rakija* into me very often, and the wound got well, and in a year I was strong. I always pray for the black sister who saved me from the doctor who would have cut a hole in me." He is an old man now and as hard as nails. He has drunk *rakija* ever since and no wine. It is firmly believed that whichever you are dressed with, wine or *rakija,* you must drink in future.

The local surgeons had also a great reputation for trepanning. In such a rocky country plenty of people tumble over cliffs and dent their skulls in. I have not seen any of the instruments. When the piece of bone had been removed a lump of sheep's wool was used to swab out the hole.

I was told that when there was a severe epidemic of cholera in Montenegro in the sixties it was customary to put a man in a field and to plough a circle round him to keep off the disease, but it was not successful. I was also shown a rock with a large natural hole through it, through which infants were passed for the same purpose.

A very strange remedy for fever, which I am told is still used, is to make a fire drill with a piece of hard and a piece of soft wood. The patient helps to work the drill. The fire then passes out of his body and ignites the wood, and he gets well!

There is, in fact, no end to the funny things you hear if you live with the people as one of them—fables, games and humorous tales. They are a simple and hospitable people, and poetical and imaginative.

When I left Montenegro last I said I must go back to England to my own people, and find myself a house, for I had no home to live in. And an old man said, "Why shouldst thou seek for a house, O lady? The whole white world is thy house, and all men are thy brethren."

FIG. 1.—POP GJURO.

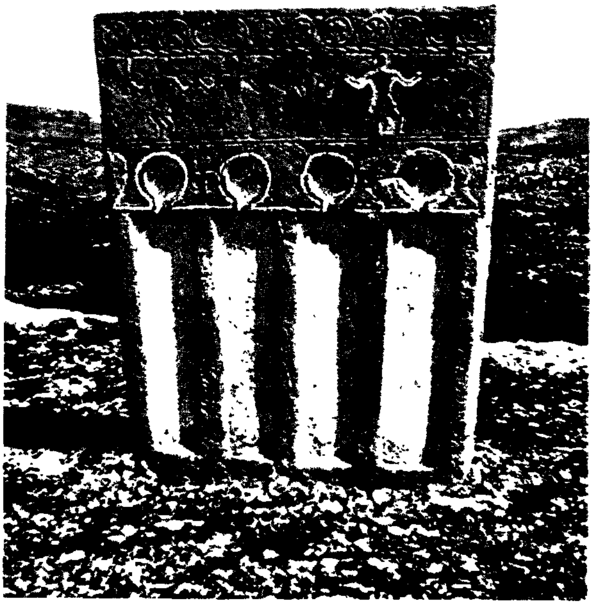

FIG 2.—BOGOMIL GRAVESTONE.

FIG. 3.—PLAYING THE GUSLE.

SOME MONTENEGRIN MANNERS AND CUSTOMS.

ANTHROPOLOGICAL NOTES ON THE BANGALA OF THE UPPER CONGO RIVER.

BY THE REV. JOHN H. WEEKS.

PREFACE.

THE following notes relate to the tribe generally known by the name of Bangala of the Upper Congo River, and represent their state, customs, and mode of life in 1890 (and subsequent years), when first I went to live among them. Up to that time they had had very little intercourse with Europeans, certainly not sufficient to affect their customs or modify their habits of life.

It will be my aim in these notes to put in permanent form what was observed then, and also what came under observation during later years—and was jotted down—that represented their true natural state.

I lived among these people from August, 1890, to April, 1905, as a missionary of the Baptist Missionary Society. Our intercourse with the natives was most intimate, and our journeys, for evangelical purposes, very frequent. During that time I resided at Monsembe, a town about 40 miles below "Nouvelle Anvers" (otherwise known as Diboko or Iboko) on the right bank of the River Congo. While there, I collected a vocabulary of some 7,000 native words, and a great number of their folklore stories. Some of these stories have been published in the *Journal of the Folklore Society*, and I trust as opportunity permits to publish more of them. The vocabulary has not been printed because, by the time we had it ready, the population had so decreased that our station at Monsembe was abandoned.

I. CLOTHING.

Clothing was worn both by men and women. Many of the men wore "trade" cloth, some wore bark cloth. The women wore skirts made from the new, tender fronds of the palm tree. The outer skin was scraped off the frondlet, and the fibres dried in the sun, and plaited on a string; their skirts consisted of about twenty of these strings tied round the waist. The attached fibres were cut to suit the taste of the wearer. The younger and more *chic* the person, the shorter the skirt. Often the attached fibres were cut so short as to expose the lower part of the buttocks. The older and more staid the person, the longer the skirt. When mourning, untrimmed skirts were worn reaching to the knees. Thus worn, they looked untidy, and gave the impression, which they were intended to convey, of negligence of personal appearance through grief. The nicely trimmed skirts gave the wearers the appearance of a ballet girl.

The men wore their cloths between their legs attached to a string or belt round the waist. The outer sides of the thighs were left uncovered. A piece of cloth 5 or 6 feet long, and from 12 inches to 36 inches wide was taken, and one end was passed under the belt in front, and the other end between the legs and fixed in the belt at the back. For ordinary purposes of walking, the man either wore the loop of the cloth reaching to the knees, or pulled all he could pass through the belt in front, and let the loose end dangle to and fro, like an apron, as he walked. When at work, or on a journey, the ends were pulled up evenly back and front, thus giving greater freedom to the legs.

There was no special covering for the genitals. Both men and women were careful to cover themselves on all occasions, whether bathing, fishing, or sitting down. When bathing or fishing they would wear an old cloth or some leaves. If you accidentally came on a man bathing he would either return to deep water, or sit down in shallow water, or cover his genitals with his hands. Of course, there are exceptions to this rule, as there are some men and women everywhere who will shamelessly expose themselves. Ordinary natives have remarked to me on the indecency of white men stripping on a steamer's deck, in view of everybody, and jumping into the river.

When sewing their cloths they used a native-made needle and palm fibre. The needle was about 5 or 6 inches long, and the eye was formed by tapering one end, and turning it over to form a loop, the end was welded into the body of the needle, and the whole well tempered.

Skin hats were worn at "palavers," and during fights. They were more for protection against cuts than for the sake of ornament. The cloths and clothes of dead men were buried with them, or if the article was out of the common it was first broken (killed) or torn, and then placed on the grave.

At war time a fighter would cut off the lips of the man he killed in battle, dry them, stud them with brass chair nails, and wear them, suspended from a string, round his neck as a token of his bravery.

It was no uncommon sight to see a native protecting his head and shoulders from the rain by a large plantain leaf, or a woman guarding her recently-dressed hair, or her baby from the rain, by a plantain leaf or large wooden platter. Directly the natives saw an umbrella they appreciated its utility.

There was no difference in dress between the various ranks of men and women. As a rule, chiefs, headmen, and freemen were more shabbily dressed than slaves. I think the reason for this was that the chiefs, etc., were not anxious to display their wealth for fear of being charged with witchcraft, but at the same time they allowed their slaves to dress as well as they could so as to be contented with their position. On grand occasions, chiefs, etc., would dress up in fine clothes, and have their bodies anointed with palm oil and cam-wood powder.

II. PERSONAL ORNAMENTS.

The hair was frequently dressed in various shapes, but the most common method was to draw the hair from the sides and back to the top of the head, and there plait it in such a way that it formed a tail-like elongation protruding over the forehead and curving upwards. This was the style most affected by men, and the more dandified the man the longer the "tail," as they used to buy hair to plait in with their own. Women sometimes had their hair done in this fashion. The hair was often cut short, and sometimes, for cleanliness, shaved clean. In times of mourning for a relation the hair was shaved on one side only. Frequently the hair was so shaved that small tufts of hair were left here and there about the size of a sixpence, and these tufts when long enough were tied in knots.

Boys and girls would have their hair cut short, and bands so shaved that their heads resembled well-planned gardens, with the hair for the flower beds, and the shaved bands for the paths. A design had its run for a time and then gave place to another that became the fashion. After a few months an old design would reappear and be the fashion again for a month or so. The following are names of two or three modes of dealing with the hair:—*Mukolola* = to shave all the hair off the head. *Bokengo* = to shave high up in the forehead so as to make the face appear round, and the forehead very high. *Mampoka* = to shave a triangular patch, the base of the triangle on the forehead, and its apex on the centre of the head. *Munkoka* = to shave each side of the head, leaving a band of hair from forehead to back of neck. *Voto* = to draw the hair up and plait the "tail" as described above. There was another mode: to shave the back and front of the head, leaving a band of hair running from one ear across the top of the head to the other ear. As stated above, there were other designs like a garden.

Beards were worn by any who could grow them, but, while free men always plaited theirs, slaves were never allowed to do so. Moustaches were worn by all who cared to do so. The moustache was often shaved off, and the eyebrows also, and it was a very common practice for the eyelashes to be pulled out one by one.

They were fond of brass ornaments, especially the women, who often wore heavy solid brass collars weighing from 2 lbs. to 18 lbs. When they died their heads were cut off to remove the collars. The armlets were also of brass, but very light as a rule; and sometimes the fingers were wound round with brass wire. The anklets were various in shape and weight, sometimes heavy brass rings were put on one above the other, and here and there would be seen a woman with a spiral leg ornament reaching from the ankles to the knees. The men wore light brass ornaments round their wrists and ankles which were put on and off according to the work they had to do. Sometimes ivory anklets and armlets, neatly cut, were worn. Young children often had thirty or forty light brass and iron rings round their arms, legs, and necks. These various ornaments were kept bright by frequent polishing.

At dances, leaves, vines, and small branches were worn with very picturesque effect. Small skins were hung from their girdles apron fashion, with the tails dragging on the ground. Hard seed-pods were tied round the ankles to cause a rattling sound as they shuffled their feet in dancing.

The belts they wore had knives of various sizes and shapes attached to them. Cuirasses of elephant and hippopotamus hide were worn to protect the back. They were hung from the shoulders by loops and were laced in front. These cuirasses had a sheath knife fixed to them where the ends met in front. This left the hands free for the shield and spears, and gave them a weapon at hand should they throw all their spears at the enemy.

A woman during the latter months of her pregnancy was often marked with different coloured pigments on the breast, abdomen, shoulders, temples and forehead, and wore two or three charms that she might have a good delivery, and her coming child good health. These pigments were put on, and the charms made and given, by an *nganga* medicine-man, who was well paid for his trouble.

The teeth (incisors) were cut to V-shaped points; some had the whole of their upper front teeth thus cut. This operation was supposed to improve their appearance. Lads and girls were cut at about the age of fourteen to eighteen or when they could bear the pain and desired to be in the fashion.

I said once to a native:—" Your teeth are cut like a dog's." He replied:— " Well, your teeth are like a bat's."

III. PAINTING AND TATTOOING.

It was the custom to wash the body well, anoint it with palm oil, and then dust it with cam-wood powder. This powder was procured in the following way: A block of cam-wood 10 or 12 inches long by 4 to 6 inches wide, and 4 or 5 inches thick, was firmly fixed in the ground by wooden pins driven along the sides and ends; another piece of cam-wood of the same dimensions was taken in the hands of the operator, a little water was sprinkled on the lower block, and the loose block was put upon it and gently rubbed to and fro until a red paste was formed which gradually ran down the sides. This paste was taken off and dried into hard cakes in the sun. When required a piece of the cake was broken off, ground into a fine powder, put into a cloth of loose texture, the ends tied and the cloth was dabbed on the body, and as it was thus dabbed the fine red powder worked through the cloth and covered the body. It was a lady's powder box and puff in one. The skin thus treated kept healthy and soft and free from scabs, etc., and received much protection from rain, sunshine or cold.

Native pigments were used for decorating the body, the principal colours were:—Red procured from a shrub called by the natives *Lungunda* (*Bixa orellana*), from which we get arnotto. The pod was opened and the seeds crushed and the pigment was painted in lines on the face and body. Women dyed their dresses with it. For years the writer used it in school as a substitute for ink. It retained its bright colour for many months. Blue, called by the natives *Jamali*.

Yellow or light brown called *Yengo,* which was a kind of clay. A black called [1]*Bwindu* made from soot and oil. All ages and both sexes used these pigments for decorative purposes, and slaves could use them as freely as their masters. Young men and women employed them more frequently than their elders.

In times of war the whole face was blackened with a thick paste of oil or soot, or oil and burnt ground-nuts; the eyes were surrounded with circles of chalk or white clay. This was to disguise them from their enemies.

When mourning, the body was smeared over with white clay or chalk; sometimes only half the body was treated. Women mourning for a husband would go naked for a few days; and men would rub their bodies with clay, and wear any old cloth, or an old string fish net when mourning for a wife or near relative (see under Section II, *re* hair, p. 99.)

I noticed three kinds of tattooing among them. 1. A single line of elliptical punch-marks running from temple to temple just above the eye-brows. 2. A cock's comb (called *Likwala*) running from the tip of the nose in some, and from between the eye-brows in others, to the crown of the head. 3. A cock's comb as above plus a palm-leaf on each temple. When you looked at the profile of a man, his tattoo stood out like a cock's comb. *Likwala* means cock's comb. The first kind of tattooing was to be found only on old men and women, showing that they were of near kinship to the *Libinza* people who live behind *Diboko* (Nouvelle Anvers). The second and third tattoos were seen singly and together on men and women, boys and girls, from the age of thirty-five downwards. Slaves from other tribes would imitate the tattoo of their masters, hence the *Mongo* tribal marks (lumps the size of a bean on the nose and across the forehead) would be seen on a man together with the *Likwala,* or the palm leaf on the temples (tribal mark of a people on the Upper Lulanga River) and the cock's comb. Slaves taken or bought young would allow their distinctive tribal mark to disappear if it would, and try to work up a good size cock's comb like their owners.

The tattooing was begun in earliest childhood by the parents, but not more than sufficient to show that the boy or girl belonged to the tribe. Later on in life the boys and girls would have the cicatrices enlarged, and at the age of eighteen or twenty and onwards the person who wished to be thought fashionable would work away at his tattoo every week or so, cutting it deeper and putting wads in the cuts to cause the flesh to stand up. The smarter the person the bigger the *Likwala.*

I only saw two so-called idols (they were really charms); two pieces of wood about 6 inches long and as thick as one's thumb. Each had one end curved in the shape of a head, and each had the cock's comb tattoo on it.

Cicatrices were to be seen on the stomachs, chests, shoulders, thighs, backs and arms of some natives, but these were largely, if not entirely, due to the practice of cupping. They were very fond of blood-letting as a cure for aches and pains in various parts of their bodies. These cicatrices were like elliptical punch-marks, but were rarely in the form of a pattern.

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[1] *Bwindu* = blackness, verb *t. inja* = to blacken, v. int. *inda* = to be black. *Mwajaindu* = a small shrub-like weed used as a black dye. Sprigs of this plant were picked, crushed in the hand and rubbed on their paddles, etc. When they dyed a dress they boiled the crushed plant in some water and left the dress in the boiling decoction for an hour or more.

The corpse of an important person would be decorated with various pigments—the face was whitened, the cock's comb painted red or blue, lines of red or yellow were painted over the eyebrows, and from the shoulders down the arms to the wrists, and lines of colour were smeared about the body according to the taste of the artists. A cap of cowrie shells, and a fine cloth finished off the decorations, and then the artist charged two brass rods per person to view the body and kept the proceeds to pay him for his trouble.

IV. ORNAMENTATION.

Before the arrival of white men at Monsembe it was the practice of the natives to ornament their saucepans with a herring-bone pattern and with bands; their knives and spears with parallel incised lines, and with herring-bone pattern; their shields being made of basket-work material had basket-work ornamentation, and often a border of lozenge pattern round the edge. The blades of paddles had parallel incised lines, and their canoes had a band of parallel incised lines along the outer top side. Handles of knives and hafts of spears were made in various shapes and studded with brass nails, or bound round with brass ribbon.

I never saw any drawings until we had been there a considerable time, and then they took to drawing sketches on the fronts of their houses, and on letters they sent to each other. These sketches were of steamers, houses, and people. Later, they took to making very fair models of steamers which were recognisable as representing steamers they had seen on the river. The material used was the potato-like substance of the plantain root, and red and black dyes.

It was interesting to watch them with their first pictures. I took there a bound volume of the *Graphic*, and placed it where they could easily take it any time they wished to look at it. At first they were not able to take in a picture as a whole. They would pick out a feature and say, "That is a nose, or a mouth, or an eye," as the case might be. Thus they traced out a man or a woman and said, "Why, it is a person!" The same was done with a house, picking out the details as a door, a window, etc., and the same with scenery. Later they could take in all the details at once. They had to learn to understand pictures in the same way that children learn to read—first the a, b, c, then the c a t, cat, and the d o g, dog, and lastly, the whole word or sentence at a glance. Sometimes they would appeal to us to explain a difficult detail, as a railway train, etc. On one occasion I showed them a picture of the London County Council meeting to talk a "palaver." They looked at it carefully for a few minutes, then scrutinised it more closely, and said, "But we don't see any spears and knives." They themselves never talked a "palaver" without having their knives, spears, and shields to hand in case of a disagreement.

The drawings made on their houses were done with charcoal, and in making sketches of persons the genitals were usually much exaggerated, and also the cock's comb tattoo. They had no idea of perspective, but a sense of humour was often exhibited when "taking off" a person. They carved excellent stools out of single blocks of wood, and also large and small canoes. With teaching they made good carpenters, and were always handy with tools.

V. LEATHER WORK.

The skins of all animals were used for different purposes. The skin of the hippopotamus was used for cuirasses; that of buffalo, antelope, goat, and sheep for belts, basket-straps and knife-sheaths; that of monkey, sygale, monitor, mongoose, and civet cat for hats, belts, small sheaths and ornamental aprons, or for containing their charms; that of the boa constrictor for belts, sheaths, and drum heads. The skin was either stretched and pinned by wooden pegs on the ground, or laced on a frame. The bits of flesh were cut off, some wood ash rubbed on and then it was left to dry in the sun. If a soft skin was desired oil was rubbed in after the skin was thoroughly dry. It was not the custom to take the hair off any of the skins. Leopard skins were prepared in the above way, and were usually preserved whole as mats upon which chiefs and headmen sat.

If the owner of an animal wished to sell the flesh in open market the skin was not taken off, but the animal so cut up that a piece of skin was left on each portion. The buyer could then see the kind of animal flesh there was for sale, and would know for a certainty whether it was tabooed to him or not. Goats, sheep, dogs, etc., were thus cut up and sold on the market or hawked for sale through the villages. Antelopes and other large game were hunted by a number of men, and the latter and their families and friends would eat the game between them, so there was no necessity to cut it with bits of skin left on: the animal was skinned, and afterwards cut up.

Although the skin of the electric fish (called *Nina*) is more than half an inch thick, I never saw it used for any purpose, in fact the people would not even eat the flesh. I once tried to dry the skin in the strong sun, but it became putrid before the sun had any effect upon it.

The skins were usually prepared by men and boys, but I do not think that there was any objection to women and girls helping in their preparation.

VI. STRING.

The bark of a water plant, called by the natives *Munkungi*, is used for making string and rope. The withes are cut in lengths from 3 feet to 4 feet long and carried into the town, then the bark is peeled off—it strips easily—carefully scraped on both sides by running it between the edge of a knife and a board, and then spread in the sun to dry. The strips are taken in the hand length by length and spun by twisting them between the palm of the hand and the thigh of the operator

The different threads are then plaited into a string, and these are plaited together into cords ⅜ of an inch in diameter. Sometimes the palm frond fibres are used for making the finer strings and twine. The strings are used for making mats and fish nets.

The strong cords are used for tying up their canoes, and bundles, and also plaited into mats about 3 feet long by 1 foot to 1 foot 6 inches wide, for crushing the sugar cane fibre when making sugar cane wine. The better made strings and twines are used for making shoulder bags or satchels, also for fighting belts. These belts were from 9 feet to 12 feet long and about 4 or 5 inches wide, and generally well smeared with pipe-clay. They were wound round the abdomen just before a fight and were a good protection against spear thrusts.

The string was wound on a wooden spool and the fish nets made by the ordinary process of netting; the mesh varying according to the size and purpose of the net.

VII. WEAVING.

I never noticed any weaving among the Bangala, but in the early years of the Mission it was no uncommon sight to see it among the Lower Congo people, especially around San Salvador.

For some years after we arrived at Monsembe the old folk wore bark cloth. A strip of bark 18 inches long by 5 inches to 6 inches wide and 1½ inches thick was taken from the tree—the wild fig tree, or from a tree called by natives *Ngumbu*. The strip of bark was soaked in water for a time and then beaten with an ivory mallet. The bark was laid across the palm of the hand when beaten. The strip gradually widened to 18 inches, and lengthened to 3 feet or 4 feet. Some cloths were very evenly beaten so that no holes appeared; other strips were not so well done, and holes and uneven places showed in the finished cloth. *Likuta* was the name given to bark cloth by the natives. *Pelele* is the name of an ancient native-made cloth, but I never saw a specimen of it, so cannot speak about its texture.

VIII. BASKET-WORK.

Not many baskets were made by the Bangala, but the most common was a wedge-shaped basket of medium texture, and with a capacity of about half a bushel, used for carrying home farm produce. This was made of split cane of the same thickness and style as the seat of a cane chair. It was a large oval at the mouth running down to a small oval at the bottom, and was carried on the back either by a single strap across the chest or forehead, or by two small loops through which the arms were passed. The oval at the mouth was about 18 inches long, and 10 inches to 12 inches in diameter, with a stout cane woven in to make it keep its shape. The basket was about 18 inches to 24 inches deep.

For soaking their cassava roots long conical baskets were used with lids to tie down. These baskets were about 6 inches in diameter at the mouth, and tapered to a point. These were 2 feet long. The cassava roots were put in and the lids securely tied, and the whole dropped into the water.

Occasionally I have seen their large sugar-cane wine pots covered with basket-work and stout handles worked on them. Other kinds of baskets found amongst this tribe were made by slaves captured or bought from neighbouring tribes. Their shields were all made of basket-work, but I never saw one in the making, and believe they were bought ready-made from another district.

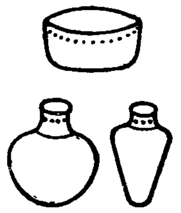
Strainers were very commonly used among them for cooking purposes. The principal meal of the day was composed largely of steamed cassava. A large saucepan was nearly filled with water, a strainer was then fixed in the saucepan, the soaked cassava laid carefully over it, and another saucepan inverted over the top.

The materials used in making the above baskets are the calamus palm, and the bamboo (*Raphia vinifera*).

See also under fish traps for other kinds of basket-work (p. 125).

IX. POTTERY.

Pottery made by the Bangala women divides itself easily into three kinds, 1. Saucepans of various sizes but only one shape. 2. Wine pots from 6 inches high to 2 feet 6 inches and broad in proportion. 3. Fire-pans or hearths used for carrying fire in their canoes when travelling. These were the same shape as No. 1, but had three prongs overhanging the top of the saucepan upon which to put an ordinary cooking saucepan and yet allow a free passage of air to the fire.



They had no knowledge of a wheel, but built up their pottery on a base by rolling the clay between the palms of the hands into long pencils about the size of a finger, and then welding the strip to the base and flattening it out with the fingers as they worked round the pot. The only decorations I have seen on their pottery are " chevrons " and " herring-bone."

In baking their pottery no kilns were used, but fire-wood was laid carefully on the ground, and the pots arranged on top, and then small fire-wood and twigs, etc., were thrown over the lot and the fire lighted.

On the Ubangi River I saw some varnishing done. When the pots were sufficiently baked, and while still hot they were rubbed over with lumps of gum copal. Pots treated in this way were used as drinking vessels, and as dishes in which to place cooked food. Some, before being rubbed over with the gum copal, were smeared with the arnotto dye, and thus showed red through the glazing.

No. 1 was called *Lobeki.* No. 2 *Mobako,* or small size *Ndubu.* No. 3 was named *Likenge.* There are many other names, but they only differentiated the sizes, and also showed whether they were well or badly made, etc.

Gourds or calabashes are cultivated and used as bottles, pots, and dishes when cut in half.

X. DYEING AND PAINTING.

Under Section III (p. 100) I have written fully on their various dyes, and how they are prepared. Their favourite colour is red, to judge by the frequency with which it is used in dyeing and decorating; but it may be that this colour, being cheap, plentiful (as cam-wood powder can easily be obtained, and the arnotto bush grows in all the towns), and always to hand, is therefore used more freely than the other colours which are scarce.

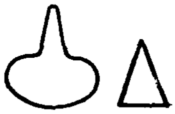
For colours used on the dead and the living for decorative purposes, and on fighters for disguising themselves, see Section III. Apart from decorating the person colours were not much used. Occasionally one would see a woman's dress and sometimes a paddle coloured red or black.

Punting sticks were often ornamented with black spiral bands, and these spiral bands were made in the following manner: the stick was barked and made smooth by scraping; a strip of the thin bark was taken and wound in a spiral round and down the stick, then it was held over the fire until the uncovered part was slightly charred. The band was removed and the stick polished by rubbing and the alternate spirals of white and black were in evidence. This was a rude form of stencil.

XI. METALLURGY.

Iron ore was imported from the Lulanga River, and smelted in native crucibles. The furnace was a hole about 18 inches deep, about 18 inches in diameter at the top and 8 inches to 10 inches at the bottom. Charcoal made from hard woods was used. The smelting pot with the ore was put in the middle of the furnace, and the blast was furnished by native bellows, and conducted to the heart of the furnace by a conical tube of burnt clay. The bellows were cut out of a solid block of wood. There were two round holes each 8 inches to 12 inches in diameter, which opened below into a common wooden tube fitting into the above mentioned clay tube. Over each of the holes a soft skin was securely tied, and to the centre of each skin was fixed a stick about 3 feet 6 inches to 4 feet long. The operator worked the stick up and down alternately, and the more vigorously he worked the more powerful the blast.

The native blacksmith made hoes and axes of the shapes indicated; knives of various shapes and sizes, spear-heads of various kinds; and piercers used in mat making; large hooks for catching crocodiles, and gouges for canoe making. Unfortunately the introduction of European knives, hoes, and axes ruined the native industry.



For some time after we settled at Monsembe the blacksmith would buy up the iron bands from our bales and boxes, and work them up into hoes, axes, knives and spear-heads. The anvil was a block of hard wood, the hammer was a bar of iron about 8 inches long, and 1¼ inches square. They had no pincers, but when the piece of iron was too short to hold while working it they made a wooden handle for it which was slipped on and off as required.

Large brass rings for the neck were made in the following way:—The potato-like substance of the plantain root was taken and cut into shape of the desired circumference and thickness; this model was surrounded with well-kneaded clay, a funnel shape opening being made to let off steam and pour in the metal. This, when completed, was baked in the fire, and as it baked the plantain root model inside was burnt. The ashes were afterwards cleared out and the molten brass poured in. When cool, the mould was broken and the brass ring was well polished by scraping and rubbing, and "herring bone" and "lozenge patterns" worked on it. The currency of the country was the brass rods, and these were used for all their brass work, and often the brass worker would get together as many rods as possible and cut ½ inch to 1 inch off of each, and so get his brass cheap. In 1890, the brass rod at Monsembe was a full 15 inches long, but by 1905 it was only 12 inches. This was largely due to the above process of "sweating." Twenty-five years ago the brass rod on the Lower Congo was 27 inches long, now it is barely 4½ inches. Of course, the price of things has gone up in proportion to the shortening of the rods, or, to put it another way, the rod has cheapened as it has shortened, and one has to give more of them for any article one buys. On the Lower Congo rods were about twenty to the franc fifteen years ago, and now they are one hundred and twenty to the franc.

Long spiral leg rings were made in the following manner:—A bamboo, 12 to 15 feet long, was split (bamboo, *Raphia vinifera*, in which there are no nodes). The pith was taken out of one-half to the desired width and depth, and the molten brass was poured along this channel. This gave the operator a long brass rod about the thickness of the index finger; this was carefully beaten round, scraped and polished. This long rod was taken, and starting from the ankle it was wound round and round the leg to just below the knee, each circumference of the spiral being made a little larger than the one below it. At the bottom it immediately impinged on the ankle which bore the whole weight, and at the top it would have 2 to 3 inches play.

Copper was known, but I never saw any of it worked, or worn as ornaments. Brass ribbon was made by beating out the brass rods to the required width, and this ribbon was used in ornamenting spear handles, knife handles, and knife sheaths. Such ribbon was generally ornamented with punch marks.

Blacksmiths were honoured as skilled men always are in Africa, but were not treated with any superstitious fear. The smith learnt his trade either by an apprenticeship to his father if he were a blacksmith, or to the village blacksmith. Iron was called *Ebuni*; iron ore, *Makele*; liquid iron, *Botoko*; to work in iron, *Tula*. Brass was called *Je*; brass ribbon *Bojingu*; brass rods—the currency *Ntaku*. Copper was called *Dikulu* or *Likulu*. A blacksmith was always known by the name of his trade and was consequently called *Motuli* = the one who *Tula* or works in iron.

XII. CONSERVATISM.

The natives are quick to imitate where imitation is possible. They are often restricted in giving expression to new ideas through lack of suitable tools and materials. No sooner did they perceive the advantages possessed by our larger houses over their huts, than they began to build houses of three rooms, and made tables, chairs, forms, cupboards and bedsteads. They saw the advantages of a hammock chair over their uncomfortable wooden stools, and imitated it. We exchanged tools, screws, nails, hinges, etc., for fowls. Hence they were able to procure the tools with which to work, and we had the fresh food for our table.

In judging the conservatism of natives and the way in which they have from generation to generation simply followed in the footsteps of their predecessors, one must not forget that they have been, and many tribes still are, bound fast by witchcraft, fetishism and superstition, and any tendency to burst these more than iron bands has been suppressed by fear of being charged with witchcraft. Some twenty-five years ago I knew a blacksmith who made a very good imitation, from old hoop iron, of a trade knife, and when the king heard of it he thought he was too clever and threatened him with a charge of witchcraft if he made any more like it. If the man who made our locomotives had lived here, in Africa, and had given play to his inventive genius, he would not have been honoured, but killed as a witch. The native had a deep-rooted feeling that anything out of the ordinary was due to witchcraft and treated it as such. Some years ago I knew a native medicine woman who was successful in treating certain native diseases, and as she became wealthy, the natives accused her of giving the sickness by witchcraft in order to cure it and be paid for it; for they said, "How can she cure it so easily unless she first gave it to them?" She had to abandon her practice or she would have been killed as a witch.

The introduction of a new article of trade has always brought on the introducer a charge of witchcraft; and there is a legend, that the man who discovered the way to tap palm trees for palm wine was charged as a witch and paid the penalty with his life. That, however, did not stop the trade in palm wine. Through this fear of being charged with witchcraft, the natives would never of themselves have made any progress in art, science or civilisation. This fear was so real and so widespread that it stultified and killed every tendency to change and progress. The reasons which have caused a lack of material progress are the same that held them fast to their religious beliefs until the white man arrived with his tools, his skill, his medicine and his religious teaching. In their old state they maintained strict conservatism, which, however, was quickly broken down by contact with the white man whom they are always ready to acknowledge their superior in all things and worthy of imitation wherever this is possible.

XIII. HABITATIONS.

The houses were rectangular in shape and about 20 feet long, 8 feet to 9 feet wide; 9 feet high at the ridge pole, with 4 feet to 5 feet walls. There was generally a partition in the house that divided off about 6 feet of it into a small sleeping apartment; the larger apartment was used by the children, dependants and visitors. Occasionally one came across a house with two such inner rooms in it. There were two small doors—one in the middle of the front and one in the middle of the back wall. This shape was common to the whole tribe and the only difference was in the size of the house and neatness of workmanship. No verandahs were found until they imitated the white man's, but sometimes wide eaves were built for much the same purpose.

A man would build a house for every wife he possessed—the native being too wise to put two women in one house—and these were generally built in a straight line or regular curve so that the owner had, at a glance, a view of all his front doors. It was usual for the owner to have a house for his own exclusive use in the middle of the row. Very often kitchens were built apart from the house, and sometimes very large unwalled sheds were built jointly by the occupants of a row of houses for cooking during the rainy weather, and for working and sleeping during the hot part of the day. Often young men of a similar age, and lads also, would join together to build a house for themselves, but no special importance need be attached to this, as it was the whim of a moment or the paramount influence of one or two lads or young men.

It was the usual custom (with occasional exceptions) to bury the owner in his own house, and it, together with any other houses he might own in the row, would be deserted, neglected and soon fall to ruin.

As a rule the houses were built in lines parallel with the river, with their front doors looking towards the latter. There were wide roads between the rows of houses. Thus you would see a line of bananas and plantains along the bank of the river, then a well kept road about 10 feet wide, then a line of houses, and immediately against the backs of the houses would be another line of bananas and plantains, then another well kept road, and then a line of houses and so on. In the towns away from the river the houses were built in line or otherwise, according to the whim of the builder and the suitability of the location for building in lines, curves or in scattered houses.

There was not much furniture in a native hut. A roughly made bed of split bamboos raised on forked sticks from 6 inches to 40 inches from the ground; a few papyrus mats, a shelf or so of split canes, a few saucepans and baskets, a few water gourds and wine pots, three stones or ant nests, between which they made a fire, and on the top of which they put their saucepans when cooking their food. In addition to these you would see some spears and paddles standing in a corner, a shield hung on the walls, and knives stuck in the grass walls, or the better kind of knives in their sheaths hanging by straps to pieces of wood stuck in the walls. There would also be one or two hoes, an axe and a matchet, and perhaps a string fish net. The cane fishing traps were kept outside the house. In one corner you see a pile of firewood, and, on a shelf near the roof but immediately above the fire, some cassava and fish drying in the smoke.

The doors were stoutly woven in different canes and bamboos, and hung by loops either to a cross-piece above or to a strong upright by the side, and fastened at night by a cross beam or bar. When the owner left his house for any considerable time during the day, or if he left it for a week or month, he tied up the door, and fixed with string some special and peculiar charm of his own to the fastening, and then it was supposed to be secure from all intruders.

During the building of a house small palms or pieces of *Euphorbia candelabra* were tied to the king posts. These were charms to ensure good luck in building, so that the house might last long and be rain-proof. I have also seen such charms tied to the trunks of trees while they were being cut and shaped into canoes. The idea is the same as in house building—to secure durability of the object placed under the protection of the charm.

The houses were swept out regularly and the refuse thrown on the nearest rubbish heap, which was generally at the roots of the plantain and bananas, and thus served as manure to these plants. The latrines were not built in or near the houses, but ladders were made at the river's bank, and sometimes overhanging poles and planks—like small piers—were so placed that the river carried off at once all excrement, etc. It was no uncommon thing to see men and women waiting for each other near these conveniences. No remarks were ever passed and although ostensibly waiting, yet they always acted as though they were not doing so. There is a native legend about the man who is supposed to have been the first to make these ladders and piers. The people of the inland towns used the bush and the forests for the same purpose, and in many of these towns pigs were kept as scavengers, otherwise the larger towns would become very unsanitary. It is quite understood that no roads or bye-paths are dirtied, for natives are just as much disgusted by treading on excrement as we are.

In times of war I have seen them build a large number of small huts very close together and surround them with a strong palisade; it being easier to do this and defend it than to build a stout fence right round the town and defend so long a line.

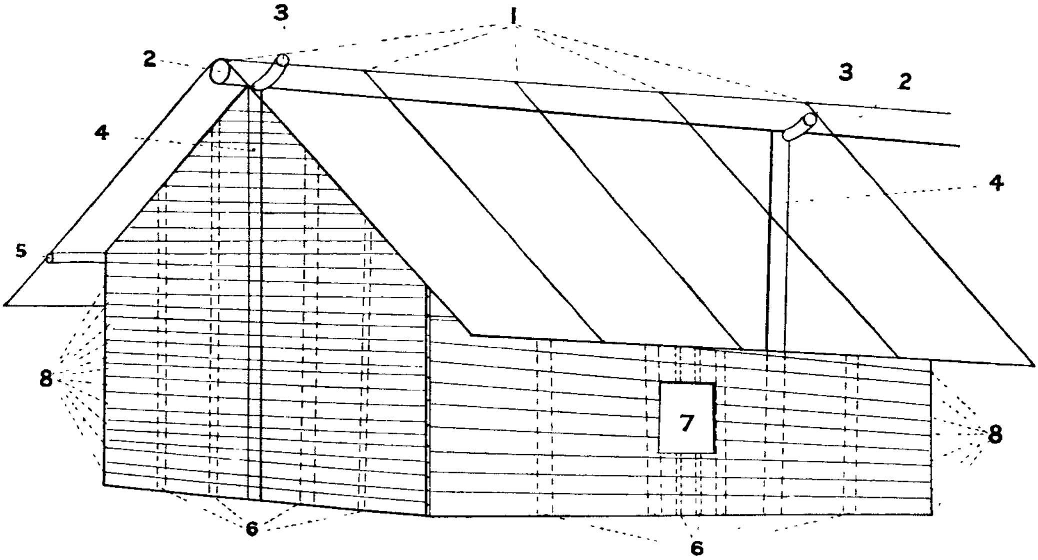
To their houses there were no windows, and the smoke found its way out through the roof, the doors, or through the space between the walls and the roof. The doorways were about 2 feet 6 inches square, and as they were in the wall under the eave of the house, the person entering had to stoop very low to get to the door, and had to raise his feet over the threshold which was about 18 inches high. A man would get all the materials himself or with his slaves and sons if he had any, and build the walls and put on the rafters; then when all was ready, he would call his friends and neighbours, and jointly tie on the *nsese* frondlets. This they completed in a day, and at the finish of their work they sat down to a feast of fish, cassava, and sugar-cane wine supplied by the owner of the house. Whatever the origin of this feast may have been it is regarded now as payment for services rendered.

When we went first to Monsembe we bought a very decent house for two hundred brass rods (equal to about 7*s.*) and a 1*d.* tin plate. Another not so large nor so good we procured for sixty brass rods.

When moving from one part of the town to another, or even when moving from one town to another, they take the best of their houses with them. The roof is lifted off by thirty to forty men and carried by them to the new site or put on a large canoe for transport by river. The walls are cut at the corners and each wall carried separately. They will finish a house easily in a day. A feast is given to the helpers.

Sheep and goats sheltered under the eaves of the houses at night or during wet weather. Fowls as a rule were kept in the houses at night; but occasionally small houses were built for them either on the ground or on piles.

They had no need for granaries as their food consisted principally of cassava roots which were dug up as required.



House was called *ndaku.* Badly made house *esasa.* Disparaging name for house *emfwasa.*

No. 1. Rafters, *molenge.* These were usually made of the mid-rib of the frond of the oil-palm.
„ 2. Ridge pole, *motondo,* also name of tree generally used.
„ 3. Fork for holding ridge pole, *meno, i.e.,* teeth.
„ 4. King-post, *likunji ja moloi, i.e.* the husband stick.

No. 5. Wall plate, *mobonga*, sometimes *motondo*, as under 2.

„ 6. Stanchion, *yingu* or *likunji ja mokelele*. The latter name means king-post of wall.

„ 7. Doorway, *monoko*, *i.e.*, mouth. Door is *ejibele*, *i.e.*, the thing that shuts, from *jiba*, verb to shut, or *mokoki*, the thing that fills in a space or fits, from *koka*, to fit. Door bar, *mokendu*. To bar, verb, *ika mokendu*. Raised door sill, *etundu*.

„ 8. Split bamboos of the *Raphia vinifera*, called by the natives *linkeke*, plur. *mankeke*. These were laced on to the walls and ends with the rounded outsides to the weather and were very durable. The whole roof was *esamba*. The eave was *mobuku*, and sometimes *mokelele*. The back of house, *etutu*. Front, *bo bwa ndaku*. The long walls back or front, *makelele* or *mwembola*. End wall, *ejeki ya ndaku*, *i.e.*, that which goes across the house. Partition in house, *ekuka* or *epelo*. Foundation or raised earth on which all the houses are built, *moboko*, this about 12 to 18 inches high. Small room in house, *nitna*. Large room used for general purposes, *esobi*. Open room, *lingongo*. These are only found in towns where aliens are living. House without walls, *esamba* = roof.

The roof was made of the frond of the *nsese* palm. This was a palm that grew in marshy places, especially on low islands that were more or less submerged during part of the year. It rarely if ever had a stem, that is, the fronds sprang straight from the ground. I never noticed one with a stem or trunk yet, the older ones must have had them. The fruit hung in irregular clusters, and were covered with bracts like a fir cone, only reddish brown and shiny. There was a thin pulp containing a bitter oil which when clarified was much better for engines than ordinary palm oil. It had a large kernel which was hard and white, and looked like vegetable ivory. Pipe bowls were often carved from these kernels.

Many thousands of these fronds were gathered, and the leaflets on one side of the mid stems were turned over to lay on top or between the leaflets on the other side. This was done while green, then they were put to dry on the ground and so arranged in long rows that only the last frond was exposed to the sun. The leaflets of this last one curled while all the rest dried out flat. When dry these *nsese* fronds were tied to the rafters in fives in such a way that all the mid ribs were close together inside the house, and the leaflets outside on the roof fell in curves over one another, presenting a thick layer of leaves to the rain and sun. The roofs had to be very steep to allow the rain to run off freely. For nearly fifteen years I lived under a roof of this kind. It had one advantage, it was always very cool; but it had several disadvantages: an *nsese* roof would not last longer than three years, as the wind would blow the loose leaflets about and break them from their stems; in fact after every storm there was considerable *débris* from the roof. Then when there was a curling wind a whole length of *nsese* would be lifted and the rain blown in, covering half your rooms with water. To overcome these two disadvantages I made long cane mats in 6 feet widths and long enough to go from the eave of the house on one side, right over the ridge to the eave on the other side, and the ends were fastened to the verandah wall plates. These mats preserved the leaflets from being blown about and torn or worn by the wind, and they also kept the wind from lifting the fronds and blowing the rain under. They added two years to the life of the *nsese* roof. The nets were made of bamboo splines ⅝ of an inch wide, very thin and 6 feet long, woven together by native string, leaving about 1-inch spaces between the splines.

These *nsese* roofs were the breeding places of all kinds of beetles, and at certain seasons their large larvæ or the beetles themselves would tumble out over the rooms. Lizards too would try to perform gymnastic exercises on the ceiling, lose their balance and fall flop about the place, sometimes into the tea, or soup, or dinner plate. I think they were more astonished than we were. They always seemed stunned for a moment and then as lively as ever. I never killed the house lizards, for they ate plenty of mosquitoes and other insects. Another drawback to *nsese* roofs is the constant anxiety about fire. To meet this danger we trained our lads to climb the roofs at a moment's call, and they would swarm over the roofs in danger and rub out the sparks that fell on the roof with their hands or throw the sparks to the ground.

The walls of the native huts were made wind-tight by putting mats of papyrus inside, then a thick layer of combed grass, and then the split bamboos outside and the whole tightly laced together.

Boring insects and beetles were driven away by the smoke, but the white ants played havoc with many houses, especially if they were left unoccupied for a time.

XIV. Fire.

Among their folklore stories are legends respecting the origin of fire. One legend has it that a man brought it from Libinza—a large district in the hinterland of Iboko from which most of the older men of Monsembe came to settle on the banks of the main river. The other legend runs thus: A man made a farm of plantains and bananas. Whenever he visited the place he found that bunches of his fruit were being stolen. One day he made an ambush to catch the thieves. Having hid himself he waited, and by-and-by he saw people coming down from above, and stealing his plantains. He ran out and caught one; it was a woman. He took her to his house and made her his wife. When she wanted to cook she found there was no fire, so she told some of her people to bring some fire with them on their next visit, which they did. Up to that time the people are supposed to have eaten everything raw. The woman stayed with the man who captured her, and induced many of her people to attach themselves also to him. Whenever she went out she told her husband not to open a certain basket; his curiosity was piqued and at last he opened it. On her return she accused him of disobeying her word, and without more ado she and her people returned whence they came. But they left the fire on the earth.

They could make fire by rubbing two sticks together, but the more common mode was by flint and steel. The flint and steel were undoubtedly imported, but the woolly substance that received the spark was gathered from the palm tree.

A lighted stick was the means used in taking fire from one house to another, and also from one family to another. If frequent sickness visited a house or family the fires were extinguished and a new fire started. Very often while living at Monsembe women would come with a freshly laid fire in a saucepan, and ask me to strike one of my matches and light it for them. The idea at the root of thus extinguishing all the family fires and starting new ones was to procure a new lease of health by removing the probable cause of their bad health—a polluted fire.

I have seen fire used for purification in the following manner:—One day I saw an old woman whom I knew very well, sitting in the centre of a ring of fire, and upon inquiry I found that she had had much to do with preparing and decorating a corpse for burial, and at the close of the ceremony she was purified by fire being lit around her. In my unpublished dictionary of the Ngala language I have the following word and its explanation: "*tumbujela* (from *tumba,* to burn, consume), to purify by fire a person who has touched a dead body." A ring of fire made of small sticks, twigs and grass encircles the person, who takes a leaf, dries it, crushes it in the hand, and sprinkles it on the fire, moving the hands over the fire ring; when the fire dies down the *nganga* takes hold of the person by the little finger and lifts his or her arm *(amobili loboko*), and the person comes from the fire circle purified. This ceremony was also performed on anyone who had attended on a very sick person, and also on one to whom the moon was tabu.

Fires were seldom extinguished, as the morning fires were started from the embers left from the previous night's fire. If, however, it were necessary to extinguish them, the lighted embers were scattered and water poured on them, but as a rule the fires were allowed to die out.

Wood was the fuel most commonly in use, but there seemed to be no restriction on what they used; anything that would burn was acceptable to them.

There was one custom peculiar to the Bangala, and that was to cut down and carry in logs 8 feet and 10 feet long, with a diameter from 6 inches to 9 inches, and use them as the *pièces de résistance* for their outside fires. Three logs were placed stretching across the road, just outside their houses, so that the three ends met together, and between the ends they made their fire, and upon the ends they placed their saucepan. As the logs burnt they were shifted along until they were consumed. They formed seats for at least three persons who wanted to sit near the fire. Thus in passing through one of their villages you would have to be continually stepping over these logs. In 1893 to 1895, when we had a bassinet at Monsembe, the natives were always thoughtful enough so to arrange their fire logs that my wife could pass along with the bassinet without inconvenience or trouble.

XV. FOOD.

A few years ago I collected some two hundred different kinds of Upper Congo fish in the neighbourhood of Monsembe. These were ticketed, the native names supplied and sent to the Natural History Museum, Cromwell Road. The museum supplied the tanks and spirits for preserving the fish. I must, therefore, refer the reader to a book published by Mr. Boulenger on the fish collected by myself and others at that time. In addition to the volume there were also published fifty beautifully engraved plates of the fish.

The only fish that all the natives refused to eat was the *nina*, electric fish. Nearly all fish were tabu to one person or another, and in very rare instances I have known persons not allowed to eat any kind of fish, they were all tabued.

Elephants, hippopotami, crocodiles, monitors, buffaloes, antelopes, bush pigs, snakes (the large kinds), bush-cats, squirrels, dogs, goats, sheep, etc., were all eaten. Fowls, ducks, pigeons, and all kinds of wild birds and fowls were eaten as food, such as guinea-fowls, kites, falcons, fish-eagles, crows, hornbills, herons, plantain-eaters, parrots, etc.

Their vegetable food consisted principally of cassava called *ndembe.* Of this there were two distinct kinds, viz., the bitter that needed soaking before cooking, named *ndembe,* and a sweet kind which needed no soaking before cooking, and when steamed was equal to good potatoes; it was called *mponzu*[1] or *nkubu.* Under *ndembe* there were several sorts, as *mumbosi,* dark brownish stem, and green leaf; *Mokili*—tinted stalk and reddish leaf; *Bolonyonkolo*—very bitter, stunted growth, brownish leaf and stalk; *Mumponga*—pinkish stalk; *Lopoma*—stalk light colour, leaf light green; *Liwanga*—stalk brownish, leaf very light green; *Likaka ja nkema* (food of monkey)—light stalk, leaf very light green with red spot in the middle. These inadequate descriptions will not materially help anyone to decide their order, but they show that the natives have recognised that there are several kinds.

Besides eating the roots the natives also eat the cassava leaves. They also eat sweet potatoes (both red skins and white skins), yams (red and white), maize, palm-nuts, ground-nuts, plaintains and bananas, sugar-canes, and various wild fruits as the rubber vine fruit, kola-nuts, amomum, etc. The *munsansabu* was the only fruit tree occasionally cultivated in the towns before we went into the district. The fruit is shaped like a date, it has a large stone covered with a thin layer of pulp with a purplish skin; roasted or boiled the pulp is much appreciated by some white people and by all natives. It grows on a beautiful tree which has the same name as the fruit, and is known on the Lower Congo as *nsafu.* Wild fruits are gathered by anyone who wants them, but the *nsafu* tree always has an owner no matter where it may be growing.

The cassava most generally used was of the poisonous kind (*gatropha manihot*), called by the natives *ndembe* (the soft thing), from *lembe,* to be soft, pliable. I am very strongly of the opinion that it was of recent introduction among them. They had several modes of cooking and preparing the root, it was soaked in water for three or four days until soft, then peeled, cored and worked into a smooth dough, then rolled into long ropes or sausages about 2 inches in diameter and from 18 inches to 20 feet long. These "ropes" were wrapped in leaves and twisted round and round with twine, and well boiled in a covered saucepan. Prepared thus, it would remain sweet for a week, and was used for journeys or for "snacks" in the morning or afternoon, but never at a proper evening meal in one's own town. When in 20-feet lengths it was called *munsona.* Short thick "sausages" of cassava were called *muntuka.* Another mode of preparing it was to cut it into thin slices and lay to soak all night, and in the morning it was eaten raw with a few ground-nuts as a "snack." This was called *munsaba.* Another preparation called *mumpampika* was to soak and peel it as above, then thoroughly dry it over the fire. In this way it would remain good a long time. When required it was soaked for three or four hours, and steamed in two saucepans as will be explained below. *Mumputa* was the name given to cassava pudding, soaked, peeled and worked into a dough ; it was boiled in the shape of a pudding.

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[1] Formerly known as *Manihot aipi.*

The meal, practically the only real meal of the day, was the evening one, and every effort was made to render it as tasty as possible with the ingredients at the disposal of the woman cook. Cassava was the principal article in the *menu,* and for this meal it was commonly prepared thus : the roots were soaked and peeled as above, then cored and cut in halves and quarters according to size of root, then the pieces were laid on a strainer fitted into a large saucepan, one piece on top of another until there was a large pile, then one or two layers of plantain leaves were arranged over the pieces and another large saucepan was inverted over the whole, and put on the fire. In this way the cassava was not boiled but thoroughly steamed until cooked, and when taken off the fire it looked very white, like floury potatoes, and as appetising. This preparation was called *ndambe* from *lamba,* to boil, or steam. In the meantime a saucepan of fish or meat was being prepared, and if these were not procurable, then a saucepan of cassava leaves pounded with red peppers and mixed with palm oil was well stewed. The cooked cassava was dipped in the fish or meat soup or in the preparation of cassava leaves and eaten. The whole was washed down with water or sugar-cane wine, but usually with water as they preferred to keep their wine for drinking bouts. Most of the people washed their hands, mouths and teeth before and after eating. This was done by filling their mouths with water and squirting it out in a stream on their hands, then having washed their hands they put a finger in the mouth and rubbed their teeth with it, rinsed their mouths with more water, and they were ready to eat.

Large palm maggots, large bats, and certain kinds of caterpillars were considered delicacies. The most common way of cooking fish and meat was by boiling. The next most frequent mode was by stewing, and then the thick gravy was used to dip their cassava in; the next way was by skewering the fish or meat and broiling it over the fire ; another but uncommon method, was to tie the fish or meat up in some plantain leaves, having first put a little water in the bundle, and set it in a bed of hot embers. The water in the bundle was converted into steam, and before the leaves were charred through the steam had thoroughly cooked the food.

Milk was tabued by all and regarded with great abhorrence. Anyone drinking it was considered unclean for several days and was not allowed to eat with his family. They could touch milk, for they milked our goats and sheep, and carried it to us without suffering defilement, but it must not touch their lips.

A boy of mine was known to have drunk some milky water out of a glass, and he was not permitted to eat with his family for five days. They could give no reason for this, but only stated it was their custom.

The blood of all animals was caught when possible and boiled and eaten· They seemed to regard it as a delicacy.

Sweet potatoes were eaten by women and occasionally by boys, but never by men. An edible frog (*Rana esculenta*) was only eaten by women. It was named *lintalale*; they were caught in ponds and were said "to come down with the rain as they were found far from water immediately after a shower." Another edible frog was the *montoki*, but of this I never saw a specimen. With these exceptions all other kinds of food were eaten by all alike, and the restrictions were the tabus put on certain foods which different people had to observe for various reasons.

Kola-nuts were used as a pick-me-up after a drinking bout, and also the malaguetta pepper—*amonum granum paradisi*; the former—kola-nut—is used on the Lower Congo to assuage hunger on long journeys.

Before, and for some time after, the arrival of white men, salt[1] was made by the natives by burning two different kinds of vegetation. 1. The thick succulent stems of a grass[2] that grew in the water along the banks of the river. This was cut in large quantities and heaped along the bank until dry, when it was carried to the town. 2. A small plant (called *E. buti*) from 4 to 5 inches in diameter, with thickish leaves, no stem, rootlets coming straight from the leaves; leaves arranged as in the "rosette of *Plantago media*" (Henfrey's *Botany*, p. 44). This plant floats on the water in large quantities, being torn from the banks with every movement of the river. The process of manufacturing salt with either the plants or the grass was the same. A large quantity, say of the succulent grass, or grass and plants mixed, was collected on the bank, and turned over from time to time until dry, then it was carried to the town, heaped up and burnt to ashes. A large funnel was made of leaves, folded, and plaited together, and suspended from a stick. Into this funnel were put some of the ashes, and water poured on them. The water dissolved the greater part of the ashes and percolated gently through the leaves and dropped into a large shallow saucepan, where the moisture evaporated, leaving behind a dirty white granulated substance which was used and sold as salt. About a table-spoonful was sold for a brass rod = 1½*d.* I knew a semi-mad man who ate two rods worth of this salt and died in a few hours. I had my suspicions about his death until I saw a pigeon die through eating a very small portion of salt.

The food belonged to the woman who cultivated the farm, and while she supplied her husband with the vegetable food, he had to supply the fish and meat and share them with his wife or wives. If he had more than one wife, then the one who cooked for him on that day shared his meat or fish as he shared her cassava or maize, etc. If a woman sold anything from her garden the money was hers, and her husband had no claim upon it; he might borrow it, but he would have to pay it back like a loan from an outsider.

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[1] Native names for salt, *monana* and *mokwa.*

[2] Called by natives *monkokọ mwa njoku* = sugar-canẹ of the elephant.

While they preferred food fresh, yet they did not disdain either fish, flesh, or fowl very high. They told me it was simply a matter of boiling it in many waters. I have known them to cook a rotten fish in twelve different lots of water to make it what they called "fresh." A fowl taken from the stomach of a python was accepted eagerly as food, and a goat bitten by a snake was taken away and eaten. Some years ago I was on a station where food was very scarce, and the only two milk goats left were killed by a python. The owner asked me privately about the matter, and as we were very short of food I advised that the viscera should be thrown away and the carcases eaten, which was done and no ill effects followed. I presume that the heat in process of cooking destroys the poisons.

The following folk-lore story will show how they regard any greediness about food:—

Mokwete had a large number of wives. He made a trap and snared an animal which he took to his town and told his wives to cook. When they had cooked the meat they took him his share and reserved a portion for themselves. He ate his meat, but it did not satisfy him. By-and-by he killed another animal, and he said to himself: "I kill plenty of animals, but get very little meat myself because my wives are so numerous." When he reached the bush near his town he disguised his voice and shouted: "Wives of Mokwete, wives of Mokwete." They answered: "*E!*" Then he said: "When your husband comes with meat you must not eat it, if you do you will die." He then picked up the animal and went on to the town. The women cooked the meat and brought it all to him. He asked why they had not taken any of it, and they told him what they had heard. He ate all the meat, was well filled, and congratulated himself on his ruse. He repeated this trick again and again.

One day a boy went into the bush, and while there he heard someone coming, so he hid himself. In a little time the person arrived and threw something heavily on the ground, and he heard a voice say: "Wives of Mokwete, wives of Mokwete, when your husband comes with meat you must not eat it, if you do you will die." The boy looked out and saw that it was his father who was deceiving his mothers, and keeping him and the other children from having a share of the meat. He hurried home and told his mothers, and as they disputed his word, one of them went to look and saw that it was truly the husband who had been telling them not to eat the meat. She went and told the others and they decided to run away. They broke their saucepans, put out their fires, and fled, and upon reaching their various towns, they told their families why they had left their husband, and everybody justified them.

When a man buys a fish or a piece of meat he shares it with the wife who cooks for him that day. When they kill an animal they are expected to share it with all their wives.

Surplus supplies of meat and fish were dried over the fire. The natives were often away three or four weeks at a time on the islands fishing, and all beyond what was wanted for immediate use was thoroughly smoked on shelves placed over their camp fires. Large baskets of smoked fish were brought back, and that which was not required by the fisherman for his own needs was quickly sold in the village to those who for various reasons could not go fishing.

The principal drink apart from water was *manga*—sugar-cane wine. The canes were cut into about 2-feet lengths, and the outside skin peeled off. The juicy pith was put into a long, strong, canoe-shaped trough, where it was pounded into pulp with heavy pestles. By the side of the trough was a strong cross stick fixed to two stout uprights. From the cross stick was suspended by many loops a stout cord-plaited mat about 16 inches wide and 2 feet 6 inches long. At the lower end of the mat was a stout stick hanging by the loops of the mat. The operator took a large handful of the crushed fibre from the trough and placed it on the mat, he then gave a twist to the lower stick, folding the mat over on to the fibre, then with both hands he twisted the lower stick again and again until no more juice could be pressed from the enclosed fibre. The juice ran from the rope mat into a wooden conduit below (generally half of an old canoe) and on into a large jar at the bottom. This process was repeated until all the crushed fibre had been pressed in the mat. (Some years ago I saw a woodcut in a book that gave the above press as an Egyptian wine press. It was in a Bible Dictionary that I saw the cut.) This operation was generally commenced about 4 A.m. and finished about 8 or 9 A.M. A little old sugar-cane wine was added to the new, and by 3 or 4 P.M. the whole jar containing some 6 to 8 gallons of wine would be fermented. I have used sugar-cane wine as a ferment for bread making, and found it very good for that purpose. A jar of 3 gallons could be bought for 2 yards of calico, about 1*s.*

A man buys a jar of wine, beats his drum in a certain way to call his friends, who, after a few minutes, begin to gather from various parts of the town, each often followed by a wife carrying a stool and some article out of which he is to drink. One has a bottle, another a saucepan, another an old coffee pot, another a jug, another a glass or enamel mug. A man is chosen to dole out the wine. The bailer used is of wood, with a capacity of about half a pint; it is fixed on to a stick thus :—

The majority drink in the ordinary way, but some drink in a manner peculiar to themselves. One draws his wine through a reed ; another has a cloth dropped over his head while drinking ; another places some fine-shredded grass over the mouth of his bottle and draws the wine through that ; another takes a part of a plantain leaf, makes a channel down the middle, puts one end into his mouth, and pours the wine out of his cup on to the top end of the leaf, whence it runs down the groove into his mouth. All these various modes of drinking are rigidly followed out of regard to the strict injunctions of some *nganga* = medicine man, who has told them that in order to prevent the return of a sickness from which they have suffered or to escape some disease they must drink in such and such a manner or not at all.

When a man is "on the drink" he sticks a leaf in his hair to show it, and then no notice is taken of any stupid or insulting remarks he may make, or of any business transaction he may enter upon.

During the sugar-cane season drinking bouts were common and would last a week or ten days. Different headmen would buy on succeeding days large jars of *manga* and would beat their drums to call their cronies and friends to the "drink." They would sit round the sugar-cane wine jar, and one would deliberately and solemnly ladle it out, so many ladles to each receptacle, hence those with large vessels received no more than those with smaller ones. Men took such drinking vessels as they had, and no remarks were passed on the size or shape. I remember once seeing a man going to a drinking bout, his wife walking behind solemnly carrying a large white enamel chamber as the only suitable article they had as a drinking vessel. Women used to drink what their husbands gave them, but it was a very rare thing to see a woman drunk. I have only seen two or three. Drinking bouts were always followed by a certain amount of sickness, as fever and diarrhœa, and a complete loss of appetite for a time. I think the rough pieces of cane found in the unstrained wine irritated the bowels and brought on dysentery; and the irregular life they led during these drinking bouts induced fever.

Feasts were not held at stated periods. Sometimes a feast was given at a wedding, sometimes when a house was completed the owner would give a feast to those who had helped in the building of it; sometimes a feast was given on recovery from serious illness; sometimes after returning from a long absence; but there was no rule and what one did was not binding on others.

All the food was cooked together and then divided by the woman-cook into two lots, one for the males of the family and the other for the females. They never ate together. If stress of weather forced them to seek the shelter of a house, the males took one end of the building and the females the other end. The boys and girls would eat with either party, but as soon as they knew the meaning of sex they no longer did so.

Sharpened sticks bound together were used as forks and called *nkanya*. Spoons were carved out of wood, or one-half of a bivalve shell was fixed in a cleft stick and used as a spoon which was called *litoko*. Native knives went by various names according to size and shape. The most common form in ordinary use was a spear-point pattern called *mbele*. Saucepans were used as plates (see Pottery, p. 105). When European goods were introduced these names were attached to them.

They were most careful in the division of any meat or fish. Supposing a fish or animal had to be divided among say twenty persons. Two would be appointed who divided the meat into twenty equal lots, then the eighteen each took a share one by one, and the last two shares left were for those who divided the meat, so it was to their interest to see that all the shares were alike or otherwise the small ones would be left for them.

Greediness was almost unknown among them. If you gave a boy a slice of bread or a piece of sugar or a little salt he would share it at once with the others standing round. There are several folk-lore stories that indicate their disapproval of gluttony in any and every form.

XVI. Cannibalism.

In 1890 cannibalism was very general right along the north bank of the Congo River from the mouth of the Mobangi River to the town of Likunungu, forty to fifty miles above Nouvelle Anvers. It was the custom to eat those slain in battle, to buy slaves from the Lulanga River and other places on purpose to eat them, and to eat those also who by some criminal act had rendered themselves liable to the penalty of death. Slaves were dear, and bloody fights were infrequent, consequently the cannibal feast was one in which they could not often indulge. I could never obtain any other reason for eating human flesh than that "it is very nice and better than any other meat."

Early one morning in the spring of 1891 our Monsembe towns were attacked by some up-river towns. The attack was repulsed; many were wounded on both sides, and a few were killed. Those killed on the side of the conquerors were buried, although two or three of them were slaves, and those killed on the other side were carried off except one man, and he was quickly cut up and carried by our station. We saw the pieces being carried by while we were at dinner, and the gruesome sight badly affected our appetite for some days. That night there was a cannibal feast in the town, and in the morning some of our workmen brought the remnants of their share on our station; the cooked flesh looked like black boiled pork.

The people of the Bomuna towns, about a mile below our station, bought slaves to eat. The price of a goat was about 80 to 100 brass rods = 5*s.* 6*d.* to 6*s.* 6*d.* each, but a male slave cost about 600 to 700 brass rods = £2 to £2 7*s.* a piece. Such a prohibitive price as this would not allow them to gratify their desire for human flesh very often.

Towards the latter part of 1891, a man—a slave—in a neighbouring town threatened to kill the chief. He was caught, tied up, and his thighs broken to prevent his escaping. Then for three days the people were busy making sugar-cane wine. During these days they fed the man well. On the fourth day he was killed and eaten, and the wine drunk at the revelry.

I always took it for granted that the women shared in these feasts of human flesh. I never heard any remark to the contrary. One day I asked a lad if he had ever eaten human flesh, and he said, "No, he had never tasted it." When I expressed my doubts about his truthfulness he said, "Human flesh was tapu to my mother, and is therefore tapu to me, that is why I have never eaten it." He gave me to understand that it was not tapu to all women and so they ate it. Hence I think they ate it when they had the opportunity.

In the early nineties there was no shame in admitting that they had eaten human flesh, but after a few years of teaching they were ashamed to confess to such a custom. Men whom I had seen eating human flesh later on denied ever having tasted it.

Although decayed corpses frequently floated down the river I never knew them to draw a single one ashore They would at times go out in their canoes to look at the corpse to see if they could recognise the person, because the corpses that floated by Monsembe were from the towns immediately above. There were too many crocodiles for bodies to travel very far on the river.

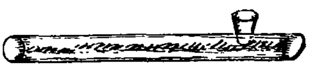
I do not think they regarded the eating of human flesh with any more concern than they did the eating of a goat. Deceased relatives were not eaten, and I have every reason to believe that they buried their own slaves.

There is a folk-lore story that a woman cut off her breasts on successive days, and cooked them for her lover when he complained that she only brought him a dinner of vegetables, whereas she should prove her love by cooking and presenting him with a meal of meat. Not having any meat by her, and not being able to procure any, she cut off one of her breasts and gave it to her lover to eat with his cassava. He showed such pleasure that on paying her a visit the next day she cooked the other breast and gave it to him. She sickened and died, and on removing her cloth they found the breasts were gone, and her lover confessed what she had done.

XVII. NARCOTICS.

Tobacco, called by the natives *makaiya*, was largely used by the men, but all the years I was there I never saw a woman smoking. Tobacco was cultivated in small patches in the towns, and when a man wanted to smoke, a leaf was plucked from the green, growing plant, carefully skewered and thoroughly dried over the red embers of the fire. When dried, the leaf of tobacco was well rubbed between the palms of the hands, and put into the bowl of the pipe, a piece of red-hot ember was put on the top, and then the smoker put the large end of the pipe stem over his mouth and took a prolonged, deep inspiration, filling his lungs and chest with the smoke, and finishing all the tobacco in the bowl at "one draw"; then the smoke was allowed to escape slowly from the mouth. Sometimes, but not often, a man would not finish the whole of the tobacco at "one draw," but, taking a deep inspiration, would pass the pipe on to his friend to finish. Pipes were lent very freely about the town, as very few men had their own. They were not great smokers, a pipe during the morning and another while sitting about talking in the evening would be about the extent of their indulgence. It was no uncommon thing to see a wife, or a son or a daughter, preparing the tobacco and pipe for the man's use.

The pipe stems were made of the horns of a large species of antelopes, and of buffalo-horns. The bowl was placed well up towards the tapered point, and was fashioned of clay and well baked. Sometimes the bowls were carved from the solid, hard kernels of the *nsese* palm (vegetable ivory palm). Now and again one would find the stem had been made of a hollow reed about 15 to 18 inches long and 2 inches in diameter. The stems were always filled with loose fine grass, or shredded fibres, through which the smoke filtered and cooled.



Snuff was compounded of tobacco and wood ash well powdered by rubbing between stones, and mixed. Very few used it, and those who affected its use rubbed it on the upper lip to allow the smell to ascend to the nostrils rather than drew it into the nose.

Hemp, called *mungulu,* was to be found in the towns occasionally, but was very little used.

XVIII. Hunting.

There were in the towns two or three men who were the recognised hunters, either because of their success, their swiftness of movement, their accuracy of aim or their daring courage. These men were the leaders in the hunt, and always received a larger share of the spoil than the ordinary men. The owner of the slain animal was he whose spear first entered a vital part, and, though the others would have a share according to their importance, yet he would take the largest portion for himself. Various relatives, headmen, and chiefs would have rights over certain parts of an animal killed by a relative, or a member of the town. These portions varied considerably with the different families and towns. A child takes a leg or a shoulder of the animal slain by his father, a mother receives the belly piece or the neck. The bespoke portions that belong to the family are called *bilelo* (sing. *elelo*). The chief or headman of the town received the head or a leg, and his portion was called *motando.* After the man had met these claims, and had given his companions in the hunt a piece each there was often not much left for himself. There is no close season for hunting on the upper river.

The boundaries of a town are well defined, and the islands belonging to a town are well known to all the other towns in the neighbourhood. If an animal is killed on ground owned by a town other than that to which the huntsman belongs he has to send a portion—generally the head—to the chief of the town that claims that ground.

The only mode I have observed among these people for preserving the meat is thoroughly to dry it or smoke it over a fire. As a rule not much meat is preserved in this way, as the animal is usually eaten all up in three or four days. Those who have more than they can eat are always willing to sell to the less fortunate, and buyers are numerous.

Men going to hunt have their special charms with them either carried on their person or fixed to their spears. These charms are as numerous almost as there are men; you will scarcely find two men in a party having faith in the same charm.

In the case of a special hunt, say for killing elephant, an *nganga* is called who takes two or three days to perform an elaborate ritual and "make medicine." This only occurred once during my residence at Monsembe, and then the hunt was not successful. Although I inquired about what the *nganga* did they were too new to me to inform me about his proceedings. For small, ordinary, and impromptu hunts no ceremonies are performed beyond tying charms to the traps used.

For hippopotamus, elephant, and antelope spring traps are placed across their tracks. These traps are made by putting two stout uprights about 4 feet apart, one on either side of the track; then a stout cross-piece is fixed at about 12 feet from the ground. To the middle of this cross-piece and right over the track is fixed a heavy log of wood. Into one end—the downward end—is placed a strong, sharp, heavy spear or prong. The log is so arranged that when the string stretched across the path is touched by the passing animal down comes the log, and four times out of six the spear enters the body of the beast. I once saw the body of a man who inadvertently touched the string of one of these traps in passing beneath it. The spear caught him in the back of the neck, passed through his body and came out between his legs. Such traps were called *mbonga*.

Occasionally holes were dug and sharpened sticks and iron prongs were fixed upright in them, and then the holes were covered very lightly with sticks, leaves, etc. It was seldom that anything was caught in these pit-traps. I often shudder, even now after many years, at the narrow escape I once had while hunting from falling into one of these traps.

In hunting bush animals, hippopotamus and crocodile, the spear was the most common weapon used, and this was hurled with great swiftness and precision. I have seen lads stand at a distance of 80 to 100 feet and put spear after spear into an upright plantain stalk no more than 6 inches in diameter. For hunting smaller game as small antelope, coypu or palm rat, bush pig, and gazelle-like animals long string nets were used. These nets were placed in a semi-circle near where the animal was supposed to be, and then the hunters would carefully beat the bush, driving the game before them into the net.

Most of the hunting spears were light, with a small blade and thin shaft. Some had barbs. Guns were seldom used as powder was dear and scarce, and often there was only a flash in the pan, the noise of which frightened the game. My experience of the common flint lock guns made out of old gas pipes is that they cause more damage to the persons firing them than to the object fired at. More than half our hospital cases are gun accidents, the barrels bursting, or the guns unexpectedly going off and wounding someone.

XIX. Fishing and its Different Modes on the River.

A. By torches at night. Fishermen in twos and threes would light a bunch of grass or an old mat on a dark night and would walk quietly along the river's bank, holding the light well up with one hand so as to attract the fish, and having in the other hand a matchet or spear well poised ready to strike any fish that was attracted by the bright light. I never saw them catch a fish this way, but they must kill one occasionally, or they would not trouble to do it. This mode is common to all the peoples right along the river.

B. During certain seasons of the year—May and November—the Congo itself and its numerous large and small tributaries, inlets and creeks are flooded with the heavy rains. The watershed of the Congo River is extensive enough to benefit by the rainy season south of the line, and by that also north of the line; hence the two rises in the year—May and November. At flood times fences are built across the smaller creeks and streams. These fences are so closely woven that none but the smallest fish can pass. As soon as the water falls, which it generally does in six to eight weeks, those who have built the fences go and search the shallow water and mud for any fish that may have been shut in by the trap. In this way large quantities of various kinds of fish are caught, which, being cleaned and dried in the smoke over a slow fire, aid much in helping them to eat their sour cassava. During the time that the river is going down the people catch snails, and cut them up to feed the fish in these creek traps and also in any ponds and pools left on the islands by the receding river. At flood time many of the islands are 1 and 2 feet below water, and as the river recedes large pools are left in the hollows. These are claimed by certain people, who, as the water shallows, fatten the fish with snails and cassava parings, and in due time they bail the remaining water out of these pools and catch the gasping fish left on the muddy bottom. The mud fish and siluroids are caught in large quantities in these pools and ponds. Both these modes are common to the whole river above Stanley Pool.

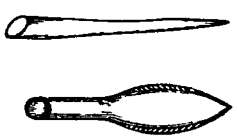
C. On the Upper Congo, where the water is shallow and the banks slope gradually and regularly, the natives select a suitable place, drive in a number of wooden stakes forming a large semi-circle, the ends of which touch the bank at from 15 to 20 yards from each other. They then fasten long bamboo nets to the stakes, thus enclosing a large sheet of water. A number of light branches and leaves are loosely thrown over the surface of the enclosed water; the up river end of this fish trap is left open for the fish to pass in, where they find shade. Snails and cassava parings are cut up and thrown in to fatten the fish and induce them to stay. As the river rises more branches are thrown on the enclosed water, and the fish gliding along the bank enter, and are charmed by the cool shade they find there.

As soon as the river begins to fall below the top of the net the opening is shut. At this stage the natives frequently spear fish by probing with their fish-spears among the branches and grass inside the trap. In a few weeks the river falls, and the branches are carefully removed, and a number of women and boys and girls enter the water with cone-shaped baskets about 2 feet high, 18 inches in diameter at the mouth, and 8-inch opening at the top. These they lift up and down in the water, placing the bottom firmly each time on the river bed, and from the feel they can tell if a fish is enclosed or not. They catch fish frequently in this way, and then put their hand through the top opening and grip it. If too large for that, then a spear is passed through, and the fish is pinned to the ground. Around the outside of the fence will be a number of canoes, occupied by men and lads fishing with large string nets fastened to stout canes of calamus palm. With these they spoon the water, and often bring up a fish. After a time the large bamboo net fence is slowly pulled up the sloping bank, sweeping before it and enclosing in its narrowing space any fish that may have escaped the spears, nets and traps, until it is drawn right up the bank. The whole scene is very animated, men, women, boys and girls—a score or more of them—laughing, jesting, joking most noisily, splashing each other, scrambling, swimming, kicking, fighting and diving in their efforts to catch the fish they feel gliding between their legs, or slipping through their fingers. They go as much for the fun as for the fish.

D. Fish hooks, probably first introduced by white men, are in general use all along the river. The hook is baited with cassava or earth worms or entrails of fowls. It is thrown into the river to lie on the bottom until it is found and swallowed by some hungry fish. I have seen fish weighing 20 lbs. caught in this way. The end of the line is a running noose placed round the angler's wrist. I once saw a boy about fourteen years old jerked off the bank into the river by a fish that had swallowed his hook, and then in a fright had suddenly started off. The boy, taken by surprise, lost his balance and toppled into the river; he and his fish, however, were soon pulled out.

Throughout the whole length of the river the natives used large cone-shaped traps made of split canes and bamboos. These traps varied in size from 6 feet to 10 and 12 feet in length, and from 2 feet to 6 and 7 feet in diameter at the mouth. The sides ran straight for two-thirds of the length, and then tapered off to a point. Inside were several partitions running in semi-circles round the sides and at an obtuse angle to them, so that it was easy for the fish to enter; but if they tried to get out the sharp irregular ends of the canes forming the partitions probed them and effectually turned them back. These large basket-like traps were weighted and dropped into deep water with their mouths up stream. They were inspected by their owners every day or two. All kinds of large fish were caught in them. Beyond the trouble of making them no other work was necessary than going under the water to inspect them. There are several of these traps sketched in the book on fish already mentioned above.

Fish-spears were of different shapes, but their hafts were always long—10 to 12 feet—and tapered towards the end. Sometimes the handles were of sticks and



sometimes of bamboo. The fish spear was often a simple prong, sometimes an ordinary spear shape; but the commonest form was the barbed, single or double, or triple. The two former were always tightly fixed in their handles, but the barbed kind was always detachable, having 2 or 3 yards of string loosely wound round the handle near the spear-head. This would allow the head to remain in the fish, and the handle to float and show its whereabouts. I think the only reason for this difference was that the barbed spear-heads were scarce and costly, and on account of the detachable handle they were not so likely to lose them.

Fish poisons were used. One was the milky juice of a leguminous, hairy, sensitive plant called *botoko*, which was crushed and thrown into the streamlets and creeks, and had the effect of partially stupefying the fish. The other was the juice of the euphorbia called *kokotulu.*

E. The *Libinza* people, to whom I have referred several times, make the largest nets and fish in a more business-like way than any tribe I have seen on the Upper Congo. Their nets are of a large mesh, and are made entirely of native string. In shape the net is like a box without a lid. It is 15 feet long, 8 feet wide, and 3 to 4 feet deep. This was a fair average size; there were many larger than this and some smaller. Soon after dark they select a suitable place—a sand bank with 3 or 4 feet of water on it. The net is fixed by one end, the two sides being tied to stakes. Having fastened their net, they form a wide semicircle at some distance from the untied end of their net, and at a signal they beat the water with their hands and feet, gradually working up to the open end and driving the startled fish before them. This operation is frequently repeated through the night, and as a result large quantities of all kinds of fish are brought to the town next morning.

F. The Basoko people have another mode of fishing, by means of a string net 30 feet long and 5 feet high. The two ends are fixed to sticks, along the upper edge are floats of pith wood, and along the bottom edge are weights of burnt fire-clay. The men go out in a canoe and at a likely place the net is unrolled and one man slips over the side of the canoe with one end of the net which, by means of the stick, he fastens upright in the rivers bed; the other man then jumps in with his end, and makes a wide detour—the floats buoying up one edge and the weights sinking the other. The second man having made as wide a detour as the length of the net permits, sweeps round the fixed end and winds the net loosely round and round, entangling in its mesh any fish caught inside the circle of its sweep. I have seen many fish caught this way.

G. The Bapoto people have another mode which appears very clumsy. A light frame of poles about 8 or 9 feet square is covered with a fine mat of bamboo laths closely woven together. One side of this frame is hinged to the side of the canoe so that it swings easily. The two upper corners of the frame have ropes attached to them. The frame is hinged to the side of the canoe and the two fishermen hold it upright while a third paddles them into mid-stream; then the frame is lowered by the ropes until the top end is 12 to 14 inches under the water, and then the canoe is allowed to drift with the current. By-and-by a fish swims over the net, and the men, who are watching, pull at their ropes, up comes the net and down slides the fish into the canoe.

It is a curious fact that one tribe never imitates another in its principal mode of fishing. I have seen an Upper river native make and use a cast net such as he had seen our Accra carpenters use, but I have never seen a man of one tribe imitate a man of a neighbouring tribe in his peculiar mode of fishing. They have traps common to all, but each tribe has its own principal mode peculiar to itself. I have twitted a native of Monsembe about not following or even trying the successful mode of fishing pursued by the Libinza people, and he has replied, "We could not catch fish like them even if we tried; that is their way, and we have ours."

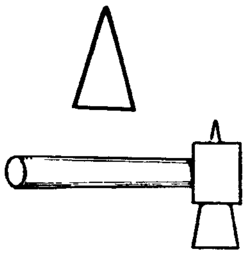
While a man is fishing, and immediately on his return from fishing, he is called Mwele, no matter who he may be. To call the fishermen by their proper names is to destroy their luck, and any person who does that is liable to a heavy fine, or is compelled to sell the fish of the luck-destroyed man at a very good price so as to restore the luck again.

The first-fruits of a lad's fishing are always, if possible, given to his relatives so as to ensure good luck. When this is not possible, then other fish are given later on. Very often, a share of the first catch of each season is given to the parents or relatives for the same reason.

A part of the fish caught is given to the head chief of the town to which the fisherman belongs. This is regarded as the perquisites of his position, and if not observed is bitterly resented.

XX. Agriculture and Farming.

Large farms were made around the towns. The men did the clearing of the bush, felling the trees, and cutting down the undergrowth: the women worked with them, heaping up the grass and brushwood ready for burning, and helping generally. As a rule, the women did the hoeing, planting and weeding, but the men did not so despise this work as never to do it. The men used a wedge-shaped axe for felling trees. These axes were fixed into wooden handles by making the narrow end of the axe red-hot and letting it burn its way through the thick end of the wooden handle. The hoes were like cheese-cutters in shape and were fixed in their handles in the same manner as the axes.



The principal article cultivated was the cassava. Next to that came the sugar canes, for making wine, then plantains, bananas, maize, sweet potatoes, and a few yams. See section under "Food," for full details of produce grown (p. 114).

Their mode of hoeing never allowed them to go deeper than 4 or 5 inches into the ground, consequently a farm was played out after three or four seasons, and then it was allowed to lie fallow, another piece was cleared and hoed. Monsembe being so near the equatorial line, there was no regular dry season. Some years there was a break at one part of the year and sometimes at another. When a set of five stars called *kole* reached the meridian, the natives did more planting * than at any other season, because the rains, though infrequent, were then * * fairly certain. This set of five stars is in the constellation *Lepus*. The * * natives said it resembled a man—the top star being the head, the two lower stars the hands, and the two bottom stars the feet. When the *kole* travels from east to meridian there is not much rain; from meridian towards the west, frequent rains; when far down in the west there are plenty of rains and heavy. This was not our experience. We found the time of rains very uncertain. I took notes for some time of the rainfall and was often deceived, thus:—One year we had no rain for six weeks; next year I waited until that time was passed and then planted my vegetable seeds, only to have six or seven weeks of drought. During the six weeks in the second year it rained frequently, and then, thinking there would be no dry that year, I planted my seeds, and in a week there were no more showers for nearly seven weeks. *Kole* was so well recognised by the natives that we used it as equivalent for our word year. The first-fruits of a farm were generally given to the parents or relatives, otherwise bad luck would result from not following the custom.

Every woman had her farm, which was her exclusive property, and not even a fellow wife had any rights over it. Charms were placed around the fields to mark the boundaries of a farm belonging to one woman from that of another, and also to protect the produce from thieves. The charms used seemed to be almost anything, but the most frequently seen were large univalve snail shells, bivalve shells like mussels, pieces of euphorbia candelabra, pieces of rags, old calabashes, etc. These were all tied on sticks stuck into the ground.

Fences were often run along the bush and forest sides of the farm to shut out palm rats and destructive wild bush pigs. All the owners of the farms that benefited by such a fence would help to build it. Sometimes it was necessary to keep fires burning through the night and to have people sleep in the farms to drive off marauding animals.

The breed of dogs was very poor. Something like the fox terrier in shape and size, but with stand-up ears. They were poor spiritless curs that had to be drugged before they would lead in the hunt. They were not much used for this purpose, but were fattened and sold as an article of food. A dog well fattened would bring from hundred to hundred and fifty brass rods. They were fond of dogs and also of dogs' flesh. I remember meeting a woman crying very bitterly because her dog had been killed by some neighbours for intruding into a coffin-maker's enclosure. A day or so afterwards I met her again, and asked her what she had done with her dog. "Buried it," she said. "Where?" I asked. "Here," she replied, touching her stomach.

Cats were to be found, and a person here and there would eat them, but they were not numerous and their flesh was not regarded as a dainty. The fowls were a poor breed, small and flavourless, the result, I suppose, of much interbreeding through many generations. They had goats and also sheep with horns like goats, probably through interbreeding with goats. The sheep have hair very much like goats' hair. The meat is small and poor.

XXI. EDUCATION.

Lads accompany their fathers and elders on their fishing and hunting expeditions, and learn by imitation, by listening to the talk around the camp fire, and by instruction. Most lads of fourteen to sixteen know the names of the fish in their river and creeks (and there are quite three hundred kinds of fish), their habits, and the best mode of catching them. They also know the names and habitat of most bush animals either by experience or repute; the names of birds, insects, trees, plants, etc., are all well known to them and easily distinguished. Boys and girls of a tender age will know all about sexual intercourse, pregnancy, and child-birth. In these matters they are very precocious. The village life is so open, so lacking in privacy, that almost every function of the body is performed without any attempt at secrecy, hence observant young eyes drink in all they see.

"Doctors" are generally those who have had some bad sickness and have recovered from it, hence a "doctor" very seldom treats more than one disease and his fees are small. Witch doctors treat all diseases by their charms, incantations, etc., and their fees are much higher. They sometimes receive instruction from other witch doctors, but their fame, and consequently their wealth, depend upon their own craftiness and power to gull the people. Half-daft persons, and those who had recovered from insanity, were treated with much fear, and often spoken of as *nganga* of much power. Such as were dangerous were quietly and secretly killed in some way. Silly people were treated with indifference, and sometimes with ridicule.

It was no uncommon custom for the people of a village to hire a dancer or a singer to come and teach them new dances or new songs. They paid a fixed price for their instruction; those learning the song or dance paid the amount among themselves. The new tune would be all the fashion for a few weeks, when it would take its place as an ordinary tune.

There were but few games, but few as they were they trained the eye in quickness, the hand in precision, and the body in agility. Sham fights with sides were a common amusement. The boys plaited their own shields; and for weapons the stalks of small plantain and the stems of a thick water grass were used as clubs and spears. Imitation wooden knives were used. Such sham fights were interesting to watch, for the movements of the more than half-naked bodies were swift, precise, and graceful, and undoubtedly helped to keep them in good form.

Swimming and diving were indulged in, and sometimes they would get up among themselves races on foot, or in canoes on the river, and contests in spear throwing at some fixed object such as a plantain or banana stalk.

XXII. MENTAL POWERS, ETC.

During my more than twenty-five years' teaching of the Congo natives, both on the Lower and the Upper River, I have noticed that up to the age of fourteen and fifteen, the boys and girls—especially boys—are very receptive, and easily taught; but after that age comparatively few make real advance in learning. After the age of fourteen or fifteen they have to make a continuous effort to retain any book knowledge they may have received. This may be due in some measure to their thoughts being centred on other matters, as trade journeys, fishing, and hunting on their own account, and later on building their houses and looking about for a wife, and procuring the necessary articles for paying the marriage money and meeting the expenses of the feasts, etc.

I have also thought that the following is a great factor in causing their mental growth to practically stop at the above age. For generations boys on arriving at the age of fifteen had learned all their fathers had to teach them respecting fishing, hunting, wood-craft, building, paddling, and women. If they showed a special aptitude for fishing, hunting, etc., they followed their "bent" in that particular, and simply became proficient by practice, and their successes were generally put to the credit of their charms. They never initiated new ways of building (until after the arrival of the white man), or new ways of hunting, or fishing, etc., but only carried on those modes they had gained from their fathers, and which were mastered by the time they were fifteen years old. Thus their intelligence has attained, for generations, its fullest development by the above age, and now we have to help them over that crucial stage. In some cases it is very difficult, but in other cases we can do so, and in such cases there is no limit to the intellectual progress they may make. In many instances they have mastered a good working knowledge of French, Portuguese, or English, both spoken and written.

The native in his raw state often gained such an acquaintance with the languages of neighbouring tribes as to be able to communicate freely with them; and in many of their folk-lore stories there are sentences taken from other languages and scattered through their tales like French phrases in a fashionable novel.

We have found as a rule that lads who come to us at fifteen or sixteen make very slow progress in our schools, and scarcely ever reach our higher classes. They lose heart at their difficulties and leave the school. There are exceptions, but such only go to prove the rule.

When the natives of Monsembe had the opportunity of buying or using our tools, they made doors, windows, sashes, and houses large and permanent in imitation of ours. Furniture, such as tables, chairs, bedsteads and cupboards, they also made like ours. They cut out cloth and sewed and machined trousers and jackets in imitation of those we wore. Their only limitations were materials and tools.

Their memories were exceedingly good respecting the debts owing to them, but with regard to the debts they owed, they had, or pretended to have, very bad memories—it was for the creditor to keep in mind the debts owing to him. Their memories were also exceedingly good concerning the names of all natural objects around them. They have names for the numbers ranging from 1 to 10,000 (see "Arithmetic"), but these were only used in trading and when they want to be precise. In general talk, say about a flock of birds, they would say: "Many-many," or "Hundreds and hundreds," or, of a very large flight of birds—"Thousands and thousands." It was rarely that they used a number higher than 10,000, as their trade in brass rods took them seldom if ever beyond that figure.

There were a few cases of insanity while I lived among them, caused in some instances by uterine trouble, and in other cases being a resultant phase of sleeping sickness. If the insanity was of long duration and the patients destructive and troublesome, they were quietly put out of the way.

I only met with one man who ran amok. He had had a serious illness, and either the illness or the decoctions given him to effect his cure made him temporarily mad. He cut down all the plantain trees in his path and destroyed everything in his way. People cleared out of his road, but being a man of importance he got off without any payment of damages.

I should not consider them very good trackers. I very often hunted with them, and after a short time was able to track the game as quickly as they. They never went tracking like the North American Indian, but simply for a mile or two round their own towns. Undoubtedly, the various chiefs owning the land, and demanding certain parts of the animals killed on their land, restricted the tracking and hunting to small areas, and consequently their tracking instincts were not developed.

When I went first to live among the people of Monsembe I had with me a roughly-bound volume of the *Illustrated London News.* It was very interesting to watch the development of their artistic faculties. At first they looked at a picture and asked what the marks were. They held the picture anyhow and looked at it from any point that might be convenient to them without any regard to the picture being right side up, or up-side down, or any other way. By-and-by they began to pick out the nose, eyes, mouth, etc., and say: "Why, it is a man!" They would pick out the doors, windows, walls, etc., and say: "Why, it is a house!" After a time they would drop this spelling out, as it were, of the picture, and say: "A man, a woman, a house," etc., at once. Later on, they would take in the whole of the picture at a glance. I suppose the above is the way we learn pictures in our childhood—spell them out. It was interesting to watch the same process in young men and women, and adults.

The native has an immense respect for force, but totally despises gentleness.

He likes to be treated with kindness and consideration, but instead of regarding such treatment as an expression of your goodness he considers it a sign of your weakness, and will behave accordingly. If you point out to him that you treat him with kindness and expect some consideration in return, he will acknowledge that that is fair and right, and will for a time try to act more thoughtfully, but soon the better feeling will pass away unless you constantly remind him of who and what he is, and who and what you are. To teach a native that he is your equal in all things is not to incite a desire on his part to emulate you, but rather tends to cause him to regard you with disrespect and contempt. The native knows he is not your equal, and he thinks you must have a despicable twist in your vision, and some bad ulterior motive, if you think that he is your equal, and wish him also to believe the same. I teach him that he is a creature of God as I am, and that the Redeemer died as much for him as for me, and that God will judge him righteously and will show neither of us favour or disfavour on account of the colour of our skins. At the same time I point out to him that morally, intellectually, and socially he is my inferior, and that before he can take his place beside me he must rise out of his superstitious degradation, control his lusts, govern his passions, and strive after all that is noble and beautiful in God's Book. He will admit that you are his superior in every way, but unless you firmly insist on it he will conduct himself towards you with less respect than he pays to the smallest and poorest chief in his district, and in a short time your influence will be gone and you will wonder why.

Treat the native with respect and insist on receiving the same from him, treat him with firmness, decision, masterfulness and he will go, as a rule, as far as you want him to go. Faithfully keep all promises, and fulfil all threats, therefore never make a promise you do not intend to keep, and never threaten a thing you are not able, on the face of it, to perform, *i.e.*, treat the native with gentle firmness, persuasive force, and masterful consideration, and you will get the best out of him, and cause him to respect himself while respecting you.

The native can love, and he can hate, but he is neither a good lover, nor a strong hater. His affections are neither steady or permanent. He will, however, remember a wrong committed against him much longer than a good deed done to help him. If you are powerful he will effusively smile on you a week after you have unmercifully thrashed him, but if you are a nobody he will scarcely greet you the day after you have saved his life. He is moved more by fear of pain, by loss of material profit, and by public opinion than swayed by principles and arguments. He will float with the stream rather than continually struggle against it, but at the same time he can obstinately and doggedly follow a course that will result in physical pain, material loss and ridicule if he is once persuaded that his ultimate interests lie in that direction.

He is not altogether lacking in gratitude, but he is afraid of displaying it lest a favour be asked of him in return. When you visit him he may remind you of the fact that you mended his broken leg, or cured his disease, not to make it the basis of a generous act towards you, but rather as a plea to get something extra out of you by awakening your further interest in him.

In some districts you will find he is more a liar than a thief, and if you investigate you will discover that the fines imposed for thieving are such as to deter him considerably from following his inclinations to steal. In other districts, where the laws are more lax, he will excel both in thieving and lying, but he will readily admit they are vices worthy of stringent punishment, and will express his regret that the thief stole either from you or himself, and at the same time he will be doing his best to rob you.

Before the unknown and mysterious he is timid, fearful and very superstitious. He will regard you as a *god,* and yet try to fight you : he will superstitiously believe that you have wonderful occult powers that can stop the rain, cause pestilence, and plagues, and yet he will not attempt to conciliate you, but he will savagely tell you to clear out of his town, and take your witchcraft elsewhere. When fighting with a gun he is timid, nervous, and apparently very cowardly, because he does not understand the mysteries of gunpowder, but give him a shield and a spear and his bravery is evidenced by his boldness in a fight and his utter indifference to wounds and death. The mysterious overawes, paralyses him, but superstitious fears will often arouse the demon of cruelty and vindictiveness, and incite to boldness and recklessness.

He lacks reverence, but is easily filled with awe and overcome by wonder. The stars in their courses make for him no song around the eternal throne, but the smoke ascending from his great bush fires forming a halo round the sun will make him quake with fear because it is an omen of evil. The movements of the sun and the moon awaken no admiration in him, but exhibit some poor conjuring trick, or a shilling mechanical toy, and his eyes and mouth are not big enough to express his wonder.

He is prouder than Lucifer is reputed to be, and will resent the smallest slight put upon his so-called dignity. In a fit of overweening vanity he will sacrifice everything he possesses, and destroy all his future prospects to satisfy the pride of the moment. His family may be insignificant, his town paltry, himself small and dirty, but touch his pride and he will act as though he were *un grand seigneur.* He himself must be the judge of what hurts his pride, not you. He has his own code of honour and etiquette, difficult at times for you to understand, hence you wonder at some of his exhibitions of pride.

His memory is well trained, and his powers of observation keen, minute; his ability to adapt himself to his surroundings is wonderful, and his imitative faculties are remarkable, but he lacks powers of mental concentration, and logical thought. His physical powers are highly developed, he will carry a heavy load, from 70 to 80 lbs., up and down hill, and across broken country hour after hour, but he will not or cannot follow a line of thought, metaphorically speaking, 20 yards. His reasoning and reflective faculties are stunted, undeveloped, for they have been exercised upon nothing more profound than the alphabet of existence. He knows that two and two make four—that certain results follow certain causes, but that a series of causes will produce a series of results complicated and wide-spreading in their effect he cannot grasp. He has no power of deduction, and little or no faculty for producing a well-developed plot or involved plan.

With those who have a right to a share of meat, or cloth, etc., he will be most scrupulous in dividing the article into equal portions, forgetting no one, but to those who have no right to a share he will be niggardly, mean, selfish, and grasping. His apparent generosity is innate selfishness, for he only gives that he may receive more in return, and be the giver black or white he will complain bitterly if the return present is not so large as his greed imagined it should be. Perhaps this trait in his character may be accounted for by his desire to have a grand funeral—the talk of the village or the country side. For this he will save and scheme, lie and steal, rob his neighbours, his wives, and his children to hoard up cloth, etc., for his own burial.

He has a wonderful power of imitation, but he lacks invention and initiation; but this lack is undoubtedly due to suppression of the inventive faculty. For generations it has been the custom to charge with witchcraft anyone who has commenced a new industry or discovered a new article of barter. The making of anything out of the ordinary has brought on the maker a charge of witchcraft that again and again has resulted in death by the ordeal. To know more than others, to be more skilful than others, energetic, more cute in business, more smart in dress has always caused a charge of witchcraft and death. Therefore the native, to save his life and live in peace, has smothered his inventive faculty and choked all initiative skill.

His needs are few and easily supplied, but notwithstanding this drawback to industry he is not lazy. Hire him for a year at so much per month and he will do no more than a white day labourer, *i.e.*, not more than he can help. He works for a year, and at the end of his term he receives his pay and returns to his town, where in eight cases out of ten his pay is taken from him by the eldest of his family, or by the chief of his town, or by his master if he is a slave. Knowing this beforehand, what incentive has he to industry? Visitors will sometimes find him lounging about the town, and thoughtlessly condemn him as lazy, whereas four times out of five, if they inquired, they would find he is resting after a long bout of arduous work. He may have just returned from a trading journey lasting three to four months, during which time he has had rough sleeping places, insufficient food, and difficult roads to traverse; or he may have returned only yesterday from a fishing expedition, sleeping in rough shelters for three months, isolated from his fellows, and fishing during the night as well as the day so as to take advantage of the season; or it may be he has just returned from his twelve months' engagement for the white man, and his pay has been taken from him on one pretext or another, and the only way he can now get any compensation for his year's work is to live for a few weeks on those who have robbed him of his money. They have "eaten his pay," he will now eat their food. Or, he may have been away for months making a large canoe which he has finished, and it is now floating on the river, and he is resting before he commences another, and in the meantime he is trying to find a buyer. Then again he may be well to do, and have no need to work. His father or uncle may have been a keen trader, and has left his heir sufficient to live upon. If he were an Englishman he might be showing the soles of his boots in a Pall Mall club window, and be called a "gentleman," but being a native of Africa he smokes under his own shade tree, and is called by the ignorant a "lazy nigger."

Give him "piece-work," and above all a guarantee that he will enjoy the fruit of his labour, and you will see him work as I have seen him—equal to any white man doing *piece-work.* Much more might be said in his favour on this matter, but I refrain with this observation : That very few day labourers, the world over, *satisfy their employers* with the amount of work they do in return for their day's pay. Most white men in Africa are employers of the black man's labour—the conclusion is obvious.

In the above sketch I have generalized and have not allowed for exceptions that are always to be found to every rule. Anyone who has lived among the natives and has known them intimately will supply examples of those who were kind, generous, grateful, of others who were affectionate, devoted, unselfish, and again of others who were patient, brave, faithful and persevering; but these exceptions show that they are capable of being possessed by the noblest virtues and swayed by the highest and purest motives. Generations of superstition and moral degradation have not entirely obliterated from among them examples of kindness of heart and generosity of feeling, and these examples assure us that with proper care and cultivation such virtues and graces may become more widespread. Those of us who teach the native in the workshop and the school find through stirring up his moral and mental depths many undesirable qualities coming to the top, and those we repress, but on the other hand pleasant traits exhibit themselves and those we try to cultivate. The beneficial results may not be obvious to the unseeing eye in the first generation, and perhaps not in the second, but they will manifest themselves in due course. The civilisation of England is the outcome of a thousand years' teaching and training, and you cannot expect us to attain the same results in a generation or two. It is unfair of those who boast of their "superiority" to criticise us for not accomplishing in a generation with "inferior" material what it has taken a score of generations to accomplish in their own case.

THE NGOLOK-WANGGAR LANGUAGE, DALY RIVER, NORTH AUSTRALIA.

By SIDNEY H. RAY, M.A.

THE material for the following short grammatical note and vocabulary is derived from notes taken during an interview with the Rev. Father Conrath, of the Roman Catholic Mission on the Daly River. During a few hours' stay at Port Darwin, in 1898, on my way from Torres Straits to Hong Kong, I called at the Mission House and Father Conrath kindly gave me the information embodied in the note. No specimens of the language had previously been written, but since my return the Rev. J. Mathew, in his book, *Eaglehawk and Crow*,[1] has published a vocabulary which was derived from a member of the same mission and appears to represent the same language. There are, however, numerous differences both in the meanings given and in the spelling.[2] Most of the words which are here given were written by Father Conrath himself. He called the language Ngolok-Wanggar. Mr. Mathew names that given by him, Daktyerat. In his work on the *Linguistic Relations of German New Guinea*, Pater W. Schmidt quotes some examples from an Australian language south-west of Port Darwin,[3] which also appear to illustrate the Ngolok-Wanggar.

GRAMMAR NOTES.

1. PHONOLOGY: Vowels: *a, ä, e, i, o, ö, u, ü,* as in German. Consonants: *b, mb, ch, d, nd, dy, g, k, l, m, n, ng, ngg, ny, p, r, t, th, ty, v, w, y.* The combinations *rr, rk, lk, rm, ly, rb,* are frequent.

2. NOUNS: There is the appearance in the nouns of a four-fold gender, distinguished by means of a prefix. Examples given are: *yinelli,* a big man;

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[1] *Eaglehawk and Crow*, by John Mathew, London and Melbourne, 1899. Comparative Table, pp. 205–272.

[2] Some words in Mathew's Daktyerat are quite different, as, *e.g.*, (1) *anbulk*, sky; (2) *wurrurk*, wind; (3) *wulu*, stone; (4) *mürmallo*, old woman; (5) *ngaolu*, father; (6) *gnagnaain*, mother; (7) *bulk*, children; (8) *dugur*, fish, which are in Ngolok-Wanggar respectively; (1) *enmel*; (2) *beberma*; (3) *arri*; (4) *barmat*; (5) *babo* or *bayang*; (6) *viya*, *viyang*; (7) *alalk*; (8) *dü*. Other words are nearly the same as, *e.g.*, (1) *miru*, sun; (2) *mark*, cold; (3) *tyungo*, fire; (4) *wawk*, water; (5) *anduk*, house, which are in Ngolok-Wanggar, (1) *miri*; (2) *dumurk*; (3) *tyung*; (4) *waok*; (5) *undug*. Only two words are absolutely identical in the two vocabularies. These are: *mada*, rain, and *nga*, I.

[3] P. W. Schmidt, S.V.D., "Die Sprachlichen Verhältnisse von Deutsch-Neuguinea." Contained in *Zeitschrift für Afrikanische, Ozeanische, und Ostasiatische Sprachen*. Jahrgang v, Heft 4, und Jahrgang vi, Heft 1. Berlin, 1902; *cf.* p. 104.

nunelli, a big female; *wunelli,* a big thing; *munelli,* vegetable food. Also *cf. yinet, wunet,* bad.[1]

The plural of nouns is formed by reduplicating the first syllable, as *bulit,* master; *bubulit,* masters; *barmat,* old woman; *barbarmat,* old women. The plural is also shown by the word *mura* following the noun; *mechama mura,* brothers; *undug mura,* houses.

Nouns are declined through a variety of cases by means of suffixes.

The genitive or possessive is shown by the suffix *nö*; *babonö,* of the father; *undugnö,* of the house. In the plural, *worö* is suffixed instead of *no*; *undugwörö,* of the houses. A genitive is also shown by simple juxtaposition; *pondo undug,* roof (of) house.

The accusative is indicated by *nö* following the verb: *babo aiaia nö,* (I have) beaten the father. In the plural, *wörö* is used for *nö.*

The instrumental has suffix *vang*: *undugvang,* by means of the house; *babovang,* by the father.

The dative indicating motion towards is shown by the suffix *an* *undugan,* towards the house.

The ablative indicating direction from, or origin, is shown by the suffix *main*: *babomain,* through or by means of the father; *undugmain,* from the house; *wunetmain,* from evil.

There are three locative suffixes, *na* meaning "in," *ingga* or *yingga,* meaning "at the place of," and *yen,* meaning "in the company of"; *undugna,* in the house; *unduqingga,* at the house; *enmelyingga,* in the sky; *bauorkyingga,* on earth; *baboyingga,* at the father's place; *baboyen,* in the company of the father.

The suffixes are sometimes combined: *unduginggamain,* from the house hither.

Some nouns have variant forms: *babo,* father (in general); *bayang,* my father (when addressed); *banga,* my father (when referred to in conversation). So also *wiya,* mother; *wiyang,* mother (vocative) and *wiyanga,* my mother (in reference).

3. ADJECTIVES:—Adjectives may be formed from nouns by the suffix *yen* (cf. locative case of nouns); *dauotyen,* bloody; *waokyen,* watery.

4. PRONOUNS:—Pronouns distinguish the singular, dual and plural number, with inclusive and exclusive forms in the plural of the first person, and indicate gender in the third person. I did not obtain all the forms.

Singular: 1st person, *nga,* I; 2nd person, *wungare,* thou; 3rd person, *yündon,* he; *nündön,* she; *wündön,* it.

Dual: 1st person: *yenggi,* we two; 2nd person, *nungut-verena,* you two.

Plural: 1st person including person addressed, *yergeta,* we and you; excluding person addressed, *yauota,* we, not you; 2nd person, *nungut,* you. The 3rd person, plural, is formed by adding *wörö* in the accusative case.

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[1] Mathew gives the similar words: *yidello,* big man; *nudello,* big woman; *wudello,* big thing; *mudello,* a big object of any gender. *Op. cit.,* p. 162.

In the 3rd person, the prefixes *yu, nu, wu,* are the same as those used with nouns. In the 2nd person, dual, *verena* is the numeral "two."[1]

These pronouns are declined like nouns, but I did not obtain a full list; *yauotnö*, is "our."[2]

5. VERBS:—The root of the verb is a kind of past participle, and varies to indicate shades of meaning, *thorp,* cut, *ngack,* eat vegetables, *larack,* eat meat.

There are two kinds of reduplication. Reduplication of the whole root indicates continuous action; *thorpthorp,* make one cut after another. Reduplication of the medial syllable indicates repetition; *thororp,* cut several pieces.

The number of objects acted upon is shown in dual by prefixing *nga,* in the plural by changing the initial syllable to *wa*; *ngackma,* eat one; *ngangackma,* eat two; *warackma,* eat many.

I have only two examples of tense endings; *ma,* indicating what is customary, and *wa,* indicating the past. Examples are: *datma ännö nunno,* (I) see while (I) sit; *datma annowa nunno,* I saw while I sat; *äyö,* I continue to see; *ayowa,* I continued to see. In Mathew's vocabulary many verbs end in *-dema, e.g., waadema,* take; *taueradema,* tell, etc. This *ma* may be compared with *ma* of Macdonnell Ranges in Australia.[3]

6. NUMERALS.—The only numeral obtained was *verena,* two.[4]

7. SPECIMEN.—Father Conrath wrote for me the following version of the Paternoster.

> *Bayama yauotnö enmelyinnga nünnöwa wani tyegnyurwünyung. Ne wungare. Bullityen nünnöna kawun bong; nung wungare tyegnyurwünyung nen bauorkyinnga ngan enmelyinngaman. Mi yauotnö angyürö emmen pana tityi angyürö marinelli yauotnö ngan yauot mannen tityiang mattö wörö marinengi virmin yürö, aning auot körörma nündöma yürö pöt köranga yinngana pana perer yürö wunetmain. Nanna anda.*

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[1] In Pater Schmidt's work already referred to (p. 104), he gives the pronouns of the language "South-west of Port Darwin," as follows:—

1st person, singular, *ā, nga* : dual, *nganu* : plural, *yavöth.*
2nd „ „ *nun, nu* : „ *nungoth* „ *nungoth.*
3rd „ masculine, singular, *yi, i,* dual, *yogoth,* plural, *yogöth.*
3rd „ feminine, „ *nin,* „ *nogoth* „ *nogöth.*
3rd „ vegetable, „ *mun* „ *mogoth* „ *mogöth.*
3rd „ lifeless, „ *vun* „ *vogoth* „ *vogöth.*

[2] The pronouns here given differ considerably from the Daktyerat of Mathew. He gives—Singular, (1) *nga*; (2) *nun*; (3) *yundon.* Plural, (1) *auur, ergur*; (2) *nungur*; (3) *wurundun.* The possessives are formed by suffixes, *ve, be* or *de*; (1) *ngave,* my; (2) *nungbe,* thy; (3) *yundunde,* his. Plural, (1) *auure, ergure,* our; *nunguro,* yours; *wurundunde,* theirs. He gives also Objective forms: Singular, (1) *erin,* me; (2) *nundyu,* thee; (3) *ne,* him; Plural, (1) *erpuro, erguro,* us; (3) *wuru,* them.

[3] Rev. H. Kempe, *Transactions of Roy. Soc. South Australia,* 1890–91.

[4] The Daktyerat numerals of Mathew are: (1) *yaunuka*; (2) *verenuka*: (3) *wirittyauen.*

NGOLOK-WANGGAR VOCABULARY.

(Mathew's Daktyerat in square brackets.)

1. Natural Objects.

Sun, *miri* [*miru*].
Moon, *yelk* [*yuilk*].
Star, *nümöröl* (*cf.* eye) [*numurul*].
Sky, *enmel* [*anbulk*].
Wind, *beberma* (is windy) [*wurrurk, wind*].
Rain, *madda* [*mada*].
Fire, *tyung* [*tyungo*].
Smoke, *wen* [*arabul*].
Water, *waok* [*wawk*].
Sea, *ngambait.*
Sand, *yulboin.*
Earth, *bauork* [*wöndyö,* ground].
Stone, *arri* [*wulu*].

2. Animals.

Bird, *dȧ* [*balbalma*] [*dyur,* swan]
Egg, *dyirmin.*
Crocodile, *yingi.*
Fish, *dȧ* [*dugur*].
Shark, *dyayö.*

3. Parts of the body.

Head, *pondo* [*pondo*] (*cf.* roof).
Face, *milk* [*bebema*] [*milk,* forehead].
Hair, *pondo-mat* [*pondomer*].
Eye, *numaro* [*numuru*].
Ear, *dyauel* [*monindyaur*].
Nose, *yinnin* [*yinun*].
Mouth, *ari* [*aru*].
Lip, *ari-ngalyil* (mouth-skin) [*aru*].
Tooth, *diid* [*dir*].
Neck, *menyök.*
Arm, *wurro* [*wuru*].
Hand, *nanyilk* [*nanyulk*].
Belly, *men* [*mandulma,* stomach].
Leg, *tyet* [*kalar*] [*tyer,* thigh].
Foot, *madyan* [*mel*].
Blood, *dauot* [*padawo*].
Bone, *mörret.*
Skin, *ngalyil* [*karalla*].

4. Persons.

Man, *yinya* [*wunwa, papa*] [*gnan,* black fellow].
Woman, *aloer* [*wundinigmun*] [*elugur,* black woman].
Old woman, *barmat* [*mürmallo*].
Father, *babo, bayang* [*ngaolu*].
Mother, *viya, viyang* [*gnagnaain*].
Child, *alalk* [*bulk, children*].
Brother, *mechama* [*pukang,* elder, *nundang,* younger].
Master, *bulit.*

5.

House, *undug* [*anduk*].
Roof, *pondo* (*cf.* head).
Spear, *kolmin, belmöt, wanngo* [*daruk,* wooden spear; *mokalin,* reed spear].
Throwing-stick, *yarrua.*
Bread (introduced word), *pana* (Latin, *panis*).

6. Verbs.

Eat (animal food), *larack* [*lakadema*].
Eat (vegetable food), *ngack* [*lakadema*].
Drink, *dork* [*durkadema*].
See, *dat* [*dukadema*].
Sit, *nunno* [*adini*].

Strike, *tait* [*eadema*].

Beat, *aiaia.*

Cut, *thorp.*

7. Adjectives.

Bad, *yinet* (person), *wunet* (thing) [*yinetto*].

Good, *wunbain* [*yunbain*].

Alive, *yididinyen* [*karalla*].

Dead, *ngirkelli* [*muruneka*].

Large, *palbal* [*yidello*].

Small, *dirk* [*yigbelderang*].

Hot, *lerbma* (is not) [*poiyadu,* heat].

Cold, *dumurk* [*mark*].

Clean, *lengak.*

Black, *eigeig* [*eyukeyuk*].

Red, *minma* (is red) [*witma*].

NOTES ON THE WILD TRIBES OF THE ULU[1] PLUS, PERAK.

By Fred. W. Knocker.

[With Plates XIII and XIV.]

The Ulu Plus district extends into a practically unexplored part of the British protected state of Perak, towards the boundaries of Kelantan and Pahang. Actually the source of the river has not yet been definitely located. (Fig. 1.)

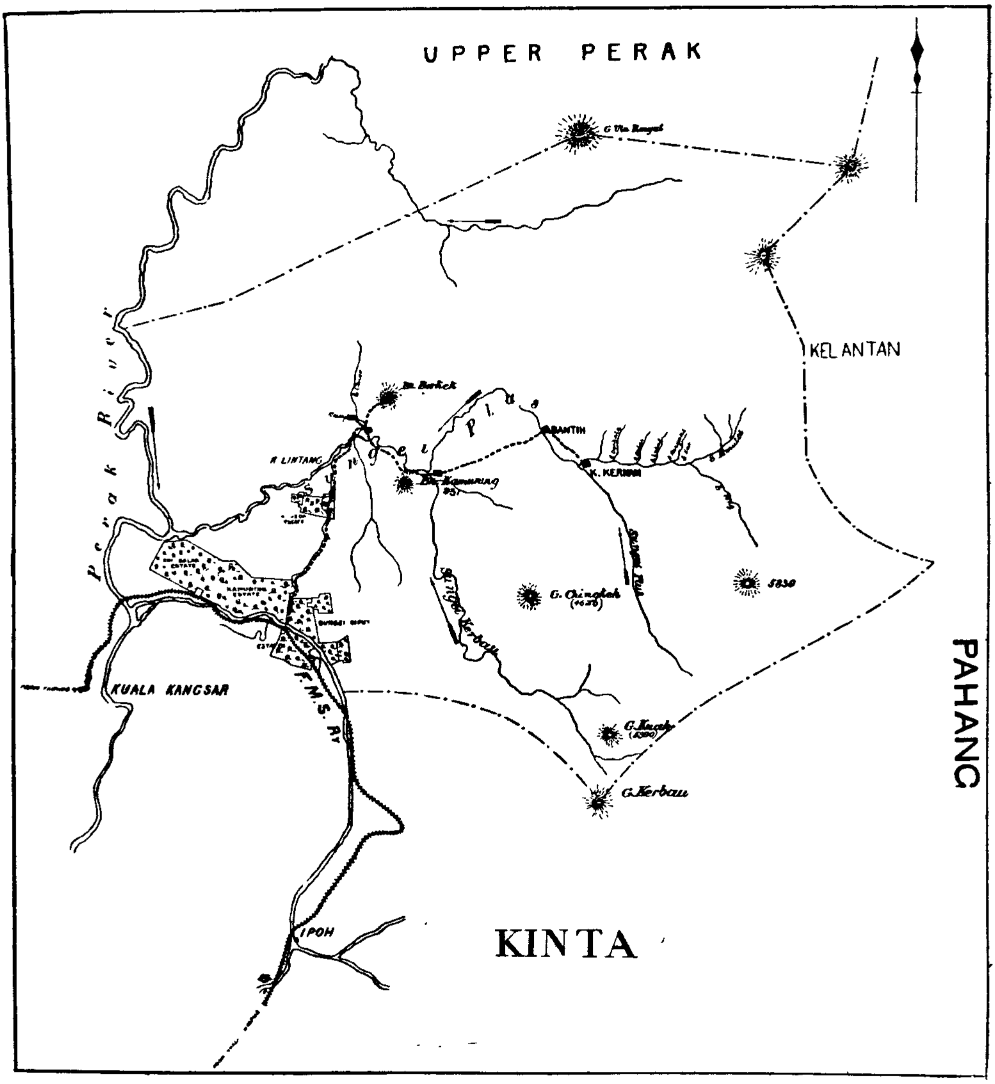

FIG. I.—MAP OF ULU PLUS DISTRICT.

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[1] *Ulu*—a Malay word signifying up-stream or source of a river.

These notes and appendices are the results of a small expedition into the region during November, 1905, organised with the fixed purpose of instituting an enquiry into the mixed aboriginal races inhabiting the country. Very little research work has as yet been undertaken amongst these people, though a considerable amount of conjecture has been indulged in respecting them. It was with the object of confirming or refuting these conjectures (whichever the case might be) that I set out to explore parts unknown and to work amongst tribes until then unfamiliar with the aggressive methods of the anthropologist. Personally the expedition was disappointing, the usual difficulties of transport, sickness, rains, etc., being so pronounced that I was forced to return at the end of four weeks without reaching the point I had hoped. It is a crumb of consolation to know, however, that anthropologists acquainted with the wild tribes of the Malay Peninsula consider the information gained sufficient to settle definitely the dispute of origin of the Plus Aborigines. Apart from this favourable verdict it is earnestly to be hoped that the publication of these notes may serve the useful purpose of a guide to future investigations higher up the valley of the Plus.

Until the date of my journey the most remote spot in the Plus Valley reached by any anthropologist was Lasah; and here I made my base or starting point. In this neighbourhood Mr. Leonard Wray worked many years ago; and in his note attached to the first part of Anthropology of Messrs. Annandale's and Robinson's *Fasciculi Malayenses* he refers to the tribes inhabiting the valley of the Plus as a "Mixed Sakai-Semang people." From my observations there can be little doubt left that the valley forms a line where the one race merges into the other, and on examination of the few descriptive details and measurements with which I am able to supplement this paper, it will not be difficult to realise that the people are indeed very mixed. I actually met some Semangs in the valley of the Chior (a small tributary of the Plus near Lasah) at the commencement of the trip; but they had tramped down from Upper Perak with a quantity of rotan for trading purposes. The people up-stream, however, insisted that they did not mix or intermarry with the Semangs; in spite of which assertion many of the portraits produced in the accompanying plates (it must be admitted) show marked resemblances towards the Semang type of aborigines.

On the other hand they confessed to obtaining blow-pipes and darts from the Semangs, admitting their inability to make these weapons themselves. Indeed in many camps this favourite instrument of the chase was not used at all, and those that I was able to collect were all made with an inner tube of the long-jointed bamboo (*bambusa wrayi*),[1] and the method of marking the head of the darts, as practised by the Semangs to denote the strength of the poison, was also adopted. I was unable to discover, however, any evidence of the use of the bow and arrow; and only on one occasion did I come across a spear, and then one that was used in a spring trap for killing wild pigs and not intended for hand use. But two years ago some spears procured from tribes on the Kelantan boundary north of the Plus Valley, whom I had hoped to meet were brought in by one of the Government Trigonometrical Surveyors. These had bamboo blades and wooden hafts and can safely be assigned to Semang origin.

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[1] A bamboo which grows at a much higher altitude than these people appeared to frequent.

At Sungei Pulut, a small tributary of the Kerbau River near its confluence with the Plus, was a large camp of people tending towards Malayan characteristics. They had, in fact, until recent years been detained in bondage by the Malays of the Kuala Kangsar district, principally as *gambalas* or elephant herdsmen. They built houses closely resembling Malay architecture. An old and rather emaciated member of the camp was acknowledged as their chief whom they called the "Ketua," a Malay title for a village headman. Apart from this man the male members of the camp were remarkably well developed.

These people called themselves "Orang Darat," a Malay name largely in use amongst the aboriginal tribes of Perak, and meaning merely "countrymen." They were very secretive with their women; and though I halted in their midst for many days I was only suffered eventually to photograph them, and by no inducement could the men be persuaded to allow any measurements to be taken. Their reticence respecting religion and kindred subjects I was likewise unable to break through. They had, as far as I could gather, very little worthy of note in the way of customs, etc. There was very little tattooing and no painting of the features. There were no personal ornaments of any kind excepting a few seed necklaces worn by some of the men; and though the masculine portion of the camp affected the ordinary hip-cloth of the Sakai, the feminine portion, for the short time I saw them, were all well-clothed in sarongs and Malay dress.

At Santih, a day's march from the Sungei Pulut, I came on to a large abandoned Sakai clearing cultivated with tapioca, gourds, and bananas, but with the dwellings burnt to the ground. On exploring the country the day after arrival we came across the people encamped on the opposite bank of the river about two miles distant. They had, I was told, only recently left their old camping ground owing to a number of deaths, but they would probably be returning there at some future date. They had built their temporary habitations of whole and split bamboo, and the floor of each stood some 8 or 9 feet from the ground—a precaution against tigers and other prowling nocturnal beasts which they said infested the neighbourhood. The incentive for settling on the other side of the river was that the *hantu* (the Malay word for "ghost"), who had stricken down two or three of their kinsmen in a comparatively short space of time, was not able to follow them across the water, and so finding the place deserted would himself abandon the spot. Their dead they had buried in the old clearing, and afterwards pointed out the graves to me; but there was nothing significant about them. They freely confessed their belief in this evil spirit haunting the ground, but at the same time could not give any word of their own for such supernatural being, though they spoke but very little of the Malay language.

Amongst these people I obtained strong evidence of Semang influence. In their deserted camp I picked up from the ruins of one of the houses, quivers, ipoh spatulæ, and other relics of distinctly Semang type. These they told me had been left behind by Semang visitors, and as I was allowed to annex them without a murmur or request for an exchange I assumed that they attached no value to them. Amongst the articles also were two sharp-pointed bone implements made from the humeri of a gibbon ape (*hylobates*) which I took for hair-pins, but which they told me were Semang tattooing needles, a statement I was rather inclined to doubt. They themselves tattooed their faces, but used the long needle-like thorn of the *bertam* palm for the purpose.

They had long given up the use of the blow-pipe, principally because of the difficulty in procuring the bamboo. They lived apparently by bartering, trapping and the primitive form of agriculture already mentioned. The former they conducted with a Chinese trader stationed at Lasah, whither they rafted down-stream on bamboo rafts, taking some nine or ten hours to accomplish the journey. The articles bartered were principally rotan cut from the jungle and fowls bred in the camp, and they received in exchange cloth, rice, tobacco and matches.

Roaming about in the abandoned settlement was a domesticated wild boar (*Sus cristatus*), which they assured me had been brought up from quite a baby by one of the women. Similar instances of rearing the young of wild beasts have been recorded amongst other aboriginal tribes of the country. Also, later on in the expedition, a woman at Kuala Kernam nourished, without hesitation, for over a week a diminutive baby gibbon (*H. lar*) which we had been fortunate enough to capture. This animal eventually survived two English winters in the London Zoological Gardens, developing into a particularly strong and healthy monkey.

At Santih, as at Sungei Pulut, the men were very reluctant in introducing their women, and though I ultimately succeeded in securing photographs and a few measurements I became very unpopular in consequence.

At Kuala Kernam, another six or eight miles up stream, I came upon quite a different state of affairs. Both men and women were perfectly unrestrained, and the latter as well as the former readily submitted to both ordeals of photographing and of measuring. They were, as well, far more primitive folk than those I had heretofore met, many of the women running about in narrow strips of bark cloth (Plate XIV, Fig. 4), with painted and tattooed faces, and wearing porcupine quills through the septum of the nose. The nose-quill was worn for adornment, and the painting of the face, in my opinion, was done for the same reason; but they told me, perhaps not without a touch of modesty, that it was practised only for healing purposes, being an effective cure for headache. (Plate XIV, Fig. 5.) The paint consisted of smoked rubber latex, the liquid being blackened as it exuded from the cut by the smoke from a fire burning at the foot of the tree. It was applied to the face by means of the fingers of another person, the operation reminding one of stage professionals "making up." My idea that it was purely to humour feminine vanity is deduced from the simple fact that the men on their own stating never resorted to the practice, and it is only natural to infer that they were not immune from headache! Tattooing, on the other hand, was found amongst both sexes; but the patterns were very indistinct, and in many cases it was difficult to detect the markings at all. The women, in addition to these personal adornments, had a fantastic way of dressing their hair, cutting it quite short all over, excepting for a little tassel of hair left growing on the crown, and which is very well seen in the same picture as that illustrating the painted features. Both men and women wore necklaces of wild seeds and monkey's teeth, and some brass wire (a quantity of which I took with me for taxidermic purposes) they very soon twisted into bracelets, anklets and rings. Also some 10 cent. pieces, with which I rewarded a pair for their patience by special request, the woman quickly converted into a necklace.

The people at Kuala Kernam subsisted entirely on the root of the tapioca plant, wild herbs gathered by the women, and animals trapped or killed with the aid of the blow-pipe by the men. Taken on the whole, they were not such a healthy-looking community as is generally found amongst these aborigines, most of them, children and adults alike, being afflicted with a scaly affection of the skin, known to the Malays as *Kurap* (Plate XIII, Fig. 4). It may be worthy of note to mention here that although I handled these persons freely and slept for many nights on the same " bed " (*i.e.*, part of the floor) previously lain on by one of them my own skin exhibited no signs of contracting the disease.

Their habitations were very primitive and squalid, built mainly with split bamboo patched with bark, and a roof of interlaced palm leaves. Two or three families lived in one house, and though there were only two houses amongst a total population of about twenty they willingly gave up one for my sole occupation and all crowded into the other one! To both of these houses was attached a small room set apart for the children, forming a primitive nursery. Fires were kept burning or smouldering on the floor of the houses, a square patch of clay and gravel in the centre of the room forming a rudely constructed fireplace.

As amongst other Sakai races these people kept domesticated dogs and fowls. They did not trade, at least directly, with civilized races, being effectively cut off from down-stream settlements and villages, so far as rafting was concerned, by an unnavigable cataract. They frequently visited up-stream tribes, and even occasionally camped over the Kelantan boundary. They attempted nothing in the way of agriculture, except the wild tapioca previously mentioned. Indeed, their extreme nomadic habits would hardly permit it, for I gathered from remarks that they changed camping ground at least three or four times in the course of a year.

They had no system of chieftainship, nor did they look up to any single person as their head. A man had one wife at a time, which he took from another camp; it was not usual to marry a woman brought up in the same camp. There was no wedding ceremony, and no oaths taken, or form of allegiance sworn by either party. Children seem to run to three or four in a family, and twins had never been heard of.

These people at Kuala Kernam called themselves, as those at Santih did, "Sakai." In this connection I would draw attention to comments on the subject of tribal names by Messrs. Annandale and Robinson in *Fasciculi Malayenses,* where, in "Anthropology," Part I, page 48, they say:—"It seems likely that the Mai Darat" (Orang Darat) "are the same tribe as that described by previous writers as Sennoi or Sinnoi, and that *sennoi* is a word equivalent to *hami,* meaning 'men.'" The aborigines of the Ulu Plus actually gave the word *sennoi* as equivalent to *orang,* the comprehensive Malay word signifying person or people. But they persisted in calling themselves Sakai (with the exception of the people at Sungei Pulut), saying that they never employed *sennoi* as a tribal name, and that they were unacquainted with the title "Mai Darat" or with any people that used it.

From the descriptive data included in the form of appendices in this paper the following summary of details may be given as of general interest. The colour of the skin is usually of a reddish brown with a few instances of an olive shade. The eyes are always dark brown and the hair black. The hair on the head varies considerably in character, being frizzly, curly, wavy, straight, thick or thin, in fact, all stages intermediate between Semang and Sakai. On the face hair is usually scanty, and when present is always wiry. On the body it is absent, but generally plentiful on the legs. The face is invariably wedge-shaped, sometimes lengthened, sometimes broadened, and, in the women, usually rounded. The profile is negroid, prognathism slightly suggested in only two instances, otherwise entirely absent. Lips on an average are of medium thickness, if varying at all inclined to be rather thick than thin. The average height of nine adult males works out at 1,538 mm. (say just over 5 feet), and four females at 1,407 mm. (say 4 feet 7½ inches).

APPENDIX I.

A Short Vocabulary of the Dialect used by the Aboriginal Tribes Inhabiting the Valley of the Sungei Plus in the State of Perak, Federated Malay States. Collected by Fred. W. Knocker.

HUMAN BEINGS.

Child, *kwat.*
Corpse, *lokak.*
Fool, *goh binong.*
Husband, *tau.*
Malay, *goh* [? *gob*].
Man, *babö.*
Person, *sennoi.*
Thief, *sityet* [*cf.* "steal" in Besisi vocabulary].
White man, *goh bior.*
Wife, *kedor.*
Woman, *babu.*

ANATOMY.

Ankle, *katong.*
Arm, *sapal.*
Arm-pit, *sennor.*
Beard, *sentul bahte.*
Blood, *embög.*
Body, *tenah.*
Breasts ♀, *bot.*
Chest, *dahut.*
Chin, *jakah* [? usually *chaka*].
Ear, *nintok.*
Elbow, *kanyong.*
Eye, *mat.*
Finger, index, *ninyor.*
  „ little, *kaiyit.*
  „ second or third, *jari* (M.).
Foot, *juk.*
Fore-arm, *chereh.*
Forehead, *petung.*
Hair, *sop* [usually *sok*].
Hand, *ti.*
Head, *kwi.*
Hips, *chandit.*
Knee, *kwi karōl.*
Leg, *kenong* [? *kĕmong*].
Moustache (*see* beard), *sentul bahte.*
Mouth, *nyah.*
Nail, *jenrosh* [usually *chenrosh, chinros, chenros*, etc.].
Neck, *g'lok.*
Nose, *mö.*
Shoulder, *på.*
Skin, *sepu.*
Sternal-notch, *lengong.*
Stomach, *kut.*
Thigh, *bĕlo'.*
Thumb, *tabu.*
Wrist, *katong-ti.*

CLOTHING, ETC.

Hip-cloth ♂, *s'lampit.*
  „ ♀, *awet.*
Necklace, *gegåg.*
Nose-quill, *chek nog mer* (*see* nose).
Tattoo, *pipit kapong.*

FOOD.

Rice, cooked, *chanah.*
  „ uncooked, *charoi.*
  „ unhusked, *bah.*
Tapioca, *kayu* [*cf.* Malay *ubi kayu*].

HOUSE, ETC.

Bed, *dek siklok.*
Creel, *saleh.*
Door, *renkah* [? means ladder].
Fire, *åsh.*
Fire-place, *wāl.*
Floor, *ne'ish.*
Grass-bag, *ragab.*
House, *deh.*
Music, *biyir.*
Plantation, *sĕlai.*

Roof, *teråb.*
Scent, *mitnor* [?].
Smoke, *chityeh.*
Window, no word.

WEAPONS, ETC.

Blow-pipe, *b'lau.*
Darts, *segah, basup.*
Poison (*ipoh*), *då,* usually *dok.*
Quiver, large, *luk* [? = *lök*].
„ small, *s'pet.*

ZOOLOGY.

(*a*) *Mammals.*

Antler (*see* horn), *balok.*
Bear, *kwip.*
Beast, *magur.*
Boar, wild, *appang.*
Cat, domestic, *kuchik* [M. *kuching*].
Civet-cat (*V. hermaphroditus*), *snisek.*
Chevrotain, *napu, p'landok* (M.).
Deer, barking, *jet.*
„ sambur, *rusa* (M.).
Dog, domestic, *chuor.*
„ wild, *chelok.*
Elephant, *tungel.*
Flying fox, *kahurt* [?].
Flying squirrel, *ampak.*
Gaur (*s'ladang*), no word.
Goat, *kambing* (M.).
Horn, *balok.*
Leopard, *chechor.*
Monkey, leaf (*S. femoralis*), *sennuluh.*
„ (*S. obscurus*), *beseek.*
„ macaque (*M. cynomolgus*), *rau.*
„ „ (*M. nemenstrinus*), *doch.*
Pangolin, *witwöt.*
Porcupine, common, *chekosh.*
Rat, *chateh* [?].
Rhinoceros, *agāb.*
Squirrel, *kidih.*
Tail, *sentah.*
Tapir, *barau.*
Tiger, *mamö.*
Tusk, *gadik* [Malay *gading*].

(*b*) *Birds.*

Argus pheasant, *kwang* (M.).
Bird, *cheh* (generally *chep*).
Duck, *iti* (M.).
Egg, *tup* [usually *tap* or *tab*].
Fowl, domestic, *mannu.*
Hornbill, *turut.*

(*c*) *Reptiles.*

Crocodile, *boya* (M.).
Frog, *tabek, lechen.*
Lizard, *parih.*
Monitor lizard, *gaiyek.*
Snake, *tajuh.*
Toad, *brengor.*

(*d*) *Fish.*

Fish, *kah.*

(*e*) *Invertebrates.*

Beetle, *taluk.*
Butterfly, *towah* [? *tawah*].
Centipede, *k'lep* [usually *keep, kiip,* etc.]
Cicada, *jareh.*
Mosquito, *jambur* [?].
Sand-fly, *k'luk.*

JUNGLE.

Bamboo, *awat.*
Branch, *dudāl.*
Flower, *tahut.*
Fruit, *kebö.*
Jungle, *sĕrok.*
Jungle, to fell (big), *gegu.*
„ „ (small), *keroch.*
Leaf, *s'lah.*
Mud, *paya* [Malay for swamp].
Seed, *erinat* [?].
Stick, *chetchot.*
Stone, *batu* (M.).
Swamp, *udong.*
Thorn, *jalah.*

Track, *nori.*
Tree, *buh-jehuk.*
Wood, *jĕhu'.*

COLOURS.

Black, *rengah.*
Blue, *blahih.*
Green, *ögneh.*
Red, *engān.*
White, *bior.*
Yellow, *chilluk.*

PHYSICAL GEOGRAPHY, ETC.

Cape, *tanjong* (M.).
Cold, *deket.*
Day, *naiyah.*
Daylight, *esis.*
Down-stream, *mareh.*
Hill, *tenjok.*
Hot, *perak.*
Land, *teh.*
Lightning, *kilat* (M.).
Moon, *gĕche'.*
Mountain, *chelmong* [*? jelmol*].
Night, *laiyet.*
Rain, *tetur.*
Rapid, *jerup.*
River, *tiyu.*
„ mouth of, *bor.*
„ source of, *nenchol.*
Sea, *laut* (M.).
Sky, *rahu.*
Star, *pailol.*
Sun, *matis.*
Thunder, *ĕngku.*
Up-stream, *ulu* (M.).
Water, *ong.*

DEMONSTRATIVE PRONOUNS.

That, *nanah.*
This, *nador.*

ADJECTIVES.

Bad, *sasoh.*
Big, *menoh.*
Bitter, *dek.*
Blind, *kebul.*
Brave, *brani* (M.).
Clever, *lölek.*
Crooked, *kenwun.*
Difficult, *susah* (M.).
Dirty, *bichåt.*
Dry, *kereh.*
Easy, *sen'ang* (M.).
False, *tahan.*
Familiar, *biasa* (M.).
Fast, *git.*
Flat, *tet-lugup.*
Foolish, *binong.*
Good, *baik* (M.).
Hungry, *cherok.*
Lazy, *lengāt.*
Little, *nuheng.*
A little, *mies.*
Long, *jerok.*
Old, *tattah.*
Round, *keldel.*
Sharp, *pihen* [*cf.* "thin"].
Short, *petehr* [?].
Slow, *p'lahan* (M.).
Sour, *assam* (M.).
Square, no word.
Strong, *chedek.*
Sweet, *behet.*
Thick, *tĕbāl* (M.)
Thin, *p'heng* [*cf.* "sharp"].
Thirsty, *haus* (M.).
Tired, *gihal.*
True, *sijek.*
Wet, *kehah.*
Wicked, *jahat* (M.).
Wide, *lebah* (M.).
Young, *litoh.*

ADVERBS.

All, *berlaka* [Mal. *bĕlaka*]
Before, *dadah.*
Behind, *k'ruk.*

Far, *jeruk.*
Here, *annoh.*
Left, *maiyel.*
Much, *pegah.*
Near, *taroh.*
Right, *matuh.*
There, *entul.*
Yes, *bĕtul* (M.).
No, *tot.*

INTERROGATIVES.

How many, *maroh.*
What, *lemun.*
Where, *enlå.*
Why, no word.

VERBS.

Awaken, *wok.*
Bite, *k'rep.*
Born, *berkuat.*
Breathe, *nehen.*
Call, *panggil* (M.).
Catch, *rot.*
Climb, *at'hoit.*
Come, *madoh.*
Cook, *behchek.*
Cry, *tepyah.*
Cut, *tetrut.*
Dance, *kejehr.*
Die, *kubus* [usually *kĕbus, cf.* "kill"].
Do, *telel.*
Do not, *jet.*
Drink, *engong.*
Eat, *chechah.*
Extinguish, *tehput.*
Fight, *gadow* (M.).
Give, *enk'ook.*
Go, *chĕchīp.*
Have, *moch.*
Have not, *hoi.*
Hold, *peggat* [Mal. *pĕgang*].
Kill, *kaibus* [*cf.* "die"].
Kneel, no word.
Know, *lek.*
Laugh, *letluk.*
Light, *nyinyok.*
Listen, *kekyok.*
Live, *gås.*
Look, *ninih.*
Murder, no word.
Place, *weh.*
Play, *minmun.*
Prick, *cheluk.*
Pull, *jeni.*
Push, *balas.*
Raise, *tekwok.*
Release, *tehset.*
Return, *memah.*
Run, *dedoch.*
Shake, *yehyok.*
Sick, (to be) *gekok.*
„ (illness), *bidit.*
Sing, *gabak.*
Sit, *gul.*
Sleep, *siklok.*
Smell, *enun.*
Speak, *tetu.*
Stand, *tot.*
Strike, *peluk.*
Swim, *lehloi.*
Take, *ankit* [*cf.* Mal. *angkit*].
Tell, *bilak* [Mal. *bilang*].
Wait, *bůt.*
Walk, *chachup juk.*
Wash, no word.
Work, *kenyuk.*

NUMERALS.

There are none except the first few numbers, which have been taken from the Malay language.

Observe.—There is no word for "ghost," "good, or evil, spirits," etc.

N.B.—Words marked "(M.)" are Malay words or corruptions of Malay words actually in use.

APPENDIX II.—

Number	1	2	3	4	5	6	7
Tribe	Orang Darat.	Orang Darat.	Orang Darat.	Orang Darat.	Orang Sakai.	Orang Sakai.	Orang Sakai.
Name	Alang.	Busuh.	Buda.	Ngah.	Alang.	Busuh.	Bolitoh.
Sex	♂	♂	♂	♂	♂	♂	♀
Locality	Sungei Pulut.	Sungei Pulut.	Sungei Pulut.	Sungei Pulut.	Santih.	Santih.	Santih.
Age	± 25	± 38	± 45	± 10	± 45	± 22	± 35
Condition ...	Stout and good.	Stout—skin of lower limbs scaled.	Medium.	Medium to good.	Medium.	Stout.	Medium.
Skin colour ...	Reddish brown.	Reddish brown —lower limbs blackish.	Reddish brown —blackish in parts.	Reddish brown.	Reddish brown to olive.	Dark reddish brown.	Reddish brown.
Eyes „ ...	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.
Hair „ ...	Black.	Black.	Black.	Black.	Black.	Black.	Black.
Character of hair	Frizzly.	Shaven on head, tuft in front.	Curly and shaven.	Wavy and plentiful.	Curly and crisp.	Straight and cut short.	Straight and long.
Hair on face ...	None.	Slight moustache and beard.	Scanty on lips and chin.	None.	Scanty on lips and chin.	None.	Absent.
„ body ...	Little on legs.	None—lower limbs little.	Little on lower limbs.	None.	None. On leg plentiful.	None—scarce on leg.	—
Shape of face ...	Wedge-shaped.	More wedge-shaped (*cf.* No. 1.)	Most wedge-shaped (*cf.* Nos. 1 and 2).	Lozenge-shaped.	Rounded wedge-shaped.	Lozenge-shape.	Slightly wedge-shaped.
Profile of nose ...	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.
Prognathism ...	Absent.	Very slight.	Very slight.	Absent.	Absent.	Absent.	Absent.
Lips	Thick.	Thick, more so than No. 1.	Thick. Lower lip very thick.	Not so very thick.	Thick.	Medium.	Medium and thick.
Remarks... ...	Plate XIII, Fig. 3.	Plate XIII. Fig. 3.	This man has slight tattoo lines on each cheek. Plate XIII, Fig. 3.	This boy is the son of No. 3.	Plate XIV, Fig. 2. Man wearing jacket.	Plate XIV, Fig. 2. Man sitting down.	Plate XIV, Fig. 1.

FIG. 1.—SAKAI MEN AND BOYS, KUALA KERNAM.

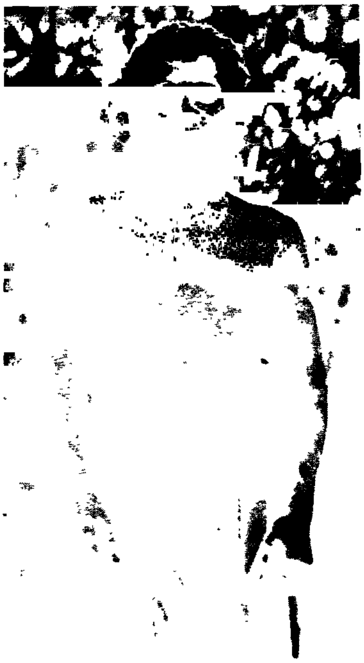

FIG. 2.—SAKAI MAN, SANTIH.

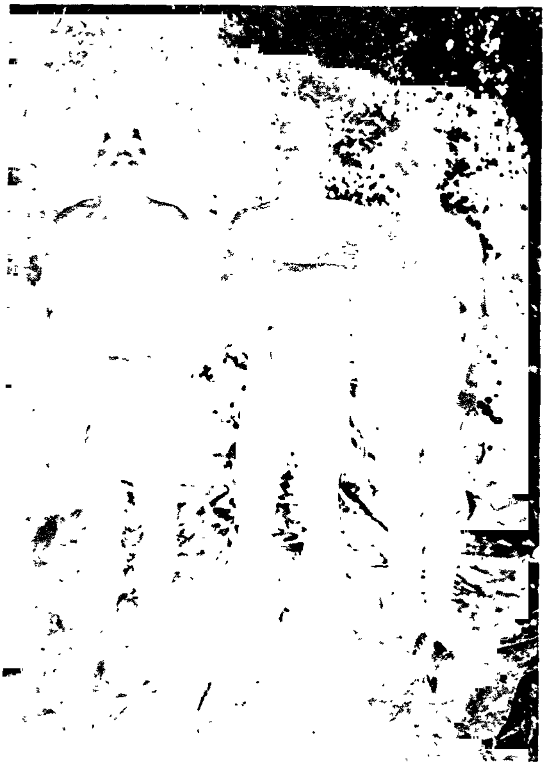

FIG. 3.—SAKAI MEN, SUNGEI PULUS.

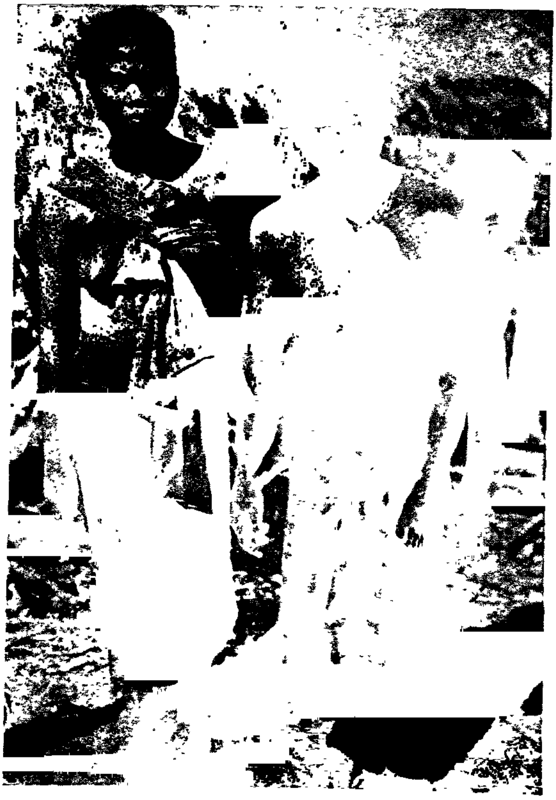

FIG. 4.—SAKAI MAN, WOMAN, AND CHILD, KUALA KERNAM.

THE WILD TRIBES OF THE ULU PLUS.

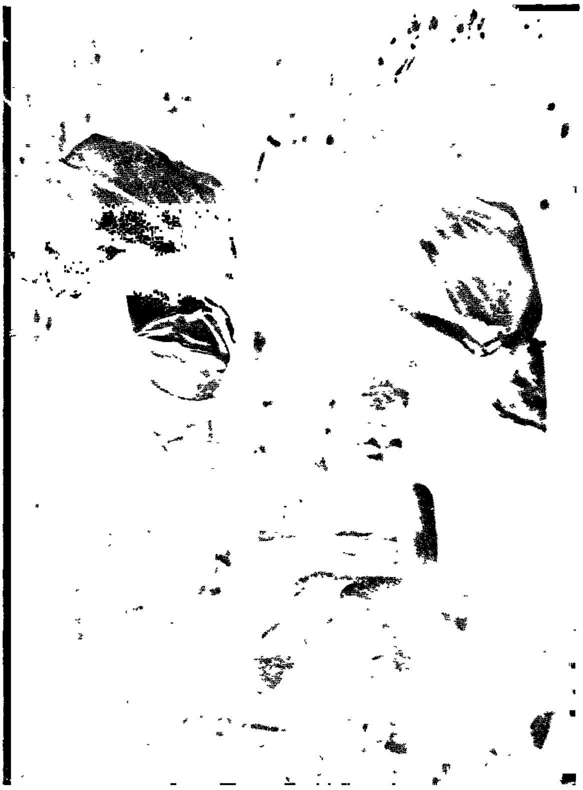

FIG. 1.—SAKAI WOMEN, SANTIH.

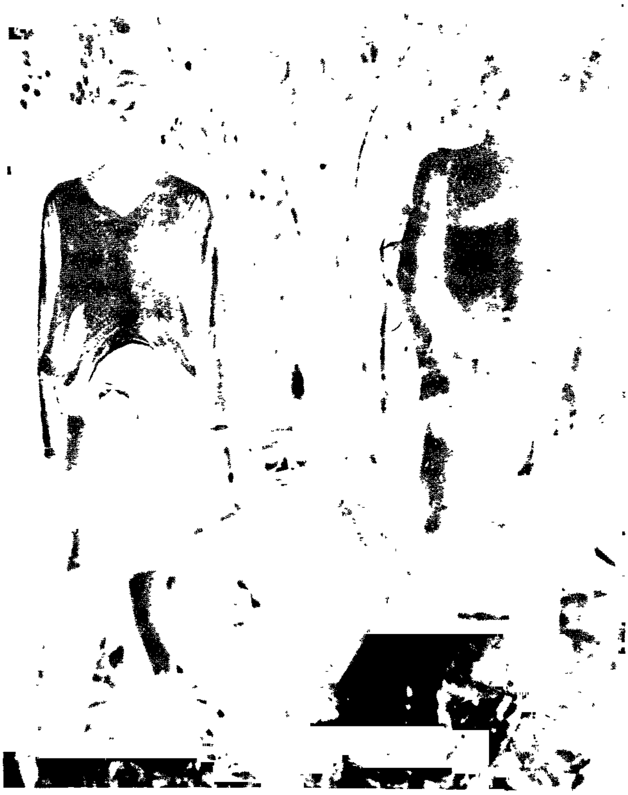

FIG. 2.—SAKAI MEN, SANTIH.

FIG. 3.—SAKAI MAN, KUALA KERNAM.

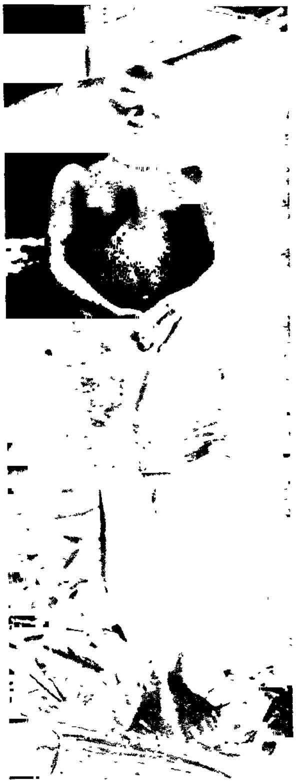

FIG. 4.—SAKAI MAIDEN, KUALA KERNAM.

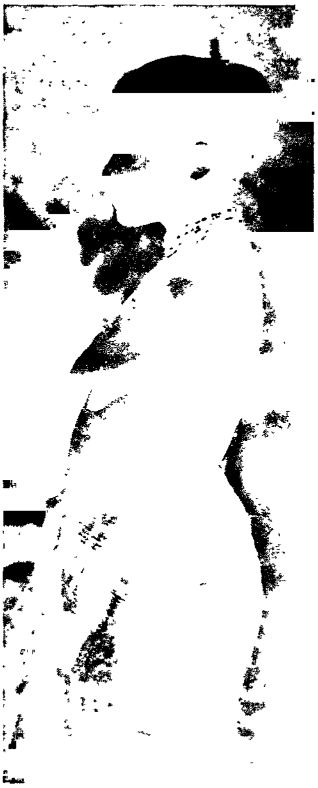

FIG. 5.—SAKAI WOMAN, KUALA KERNAM.

THE WILD TRIBES OF THE ULU PLUS.

DESCRIPTIVE CHARACTERS.

8	9	10	11	12	13	14	15
Orang Sakai.	Orang Sakai.	Sakai.	Sakai.	Sakai.	Sakai.	Sakai.	Sakai.
Long.	Pandak.	Lig.	Long.	Ngah.	Alleh.	Balleh.	Anyong.
♀	♂	♂	♂	♀	♀	♂	♂
Santih.	Santih.	Kuala Kernam.	Kuala Kernam.	Kuala Kernam.	Kuala Kernam.	Kuala Kernam.	Kuala Kernam.
± 25	± 30	± 22	± 40	+ 35	± 19	± 23	± 10
Stout.	Medium.	Medium to thin.	Medium, white skin disease.	Medium, white skin disease.	Stout.	Stout.	Stout.
Reddish brown.	Reddish brown.	Reddish brown.	Reddish brown to olive.	Olive.	Reddish brown.	Reddish brown.	Reddish brown.
Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark brown.	Dark olive brown.
Black.	Black.	Black.	Black.	Black.	Black.	Black.	Black.
Wavy and thick.	Curly and thick.	Curly.	Straight, cut short.	Wavy and long.	Cut short on crown.	Curly and fairly long.	Straight and long.
Absent.	Very scanty on upper lip.	Absent.	Scanty on upper lip and chin.	Absent.	Absent.	Very scanty on upper lip.	Absent.
—	Absent—plentiful on leg.	Absent.	Absent.	Absent.	Absent.	Absent.	Absent.
Round.	Wedge-shaped.	Narrow wedge-shaped.	Rounded wedge-shaped.	Rounded wedge-shaped.	Rounded wedge-shaped.	Broad wedge-shaped.	Broad.
Negroid.	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.	Negroid.
Absent.	Absent.	Absent.	Absent.	Absent.	Absent.	Absent.	Absent.
Medium and thick.	Thick.	Medium and thin.	Medium.	Medium.	Medium.	Medium to thick.	Medium to thick.
This woman was tattooed on face and neck. Plate XIV, Fig. 1.	Plate XIII, Fig. 2. (see also Plate XIV, Fig. 1.	Plate XIV, Fig. 3.	Plate XIII, Fig. 4.	Wife of No. 11 2 children—no signs of skin disease, breasts long and drooping and both same size. Plate XIII, Fig. 4.	Daughter of a very old man, breasts full, firm and perfectly rounded. Plate XIV, Fig. 4.	Man standing on left. Plate XIII, Fig. 1.	Son of an old man (+ 60) and young woman—his second wife. Boy sitting on left of Plate XIII, Fig. 1.

APPENDIX III.—HEAD MEASUREMENTS.

Number ...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Length ...	174	180	180	162	150	170	—	—	182	180	173	181	172	192	181
Breadth ...	140	144	142	133	152	140	—	—	153	143	141	133	130	142	141
Vertex to nasion ...	125	126	150	106	109	98	—	—	108	132	94	140	129	117	107
„ „ mouth ...	171	198	181	139	181	172	—	—	189	193	177	173	193	174	167
„ „ chin ...	217	200	220	195	215	220	—	—	219	206	208	208	205	216	201
„ „ tragus ...	118	114	121	130	133	109	—	—	129	129	137	—	—	115	—
Bizygomatic breadth ...	120	110	132	100	150	92	—	—	124	101	120	103	94	112	133
Length of nose ...	40	40	40	30	44	41	—	—	48	47	47	42	43	51	50
Breadth „ „ ...	40	40	40	30	38	41	—	—	40	38	40	32	33	37	56
Nasion to chin (direct) ...	94	103	96	90	106	100	—	—	109	93	93	—	93	113	90
Length of right ear ...	52	57	63	49	59	56	—	—	63	58	48	48	52	56	52
Breadth „ „ „ ...	26	23	34	28	33	28	—	—	32	29	26	26	25	28	29
Length of left ear ...	48	56	63	46	61	53	—	—	59	53	—	—	—	58	52
Breadth „ „ „ ...	25	29	34	25	33	31	—	—	31	30	—	—	—	32	29

APPENDIX IV.—BODY AND LIMB MEASUREMENTS.

Number.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Total height (erect)	1,463	1,570	1,570	1,275	1,599	1,450	1,380	1,430	1,576	1,600	1,460	1,478	1,341	1,561	1,220
„ (sitting)	776	800	768	626	770	750	730	730	841	821	720	763	683	824	643
„ (kneeling) ...	1,118	1,165	1,182	950	1,200	1,080	1,030	1,057	1,184	1,202	1,088	1,108	1,012	1,159	906
„ (umbilical) ...	—	—	—	—	—	—	—	—	—	—	880	—	—	923	714
Height to chin	1,260	1,353	1,339	1,080	1,360	1,242	—	—	1,350	1,377	1,262	1,253	1,143	1,332	1,024
„ sternal notch ...	1,213	1,269	1,280	1,027	1,340	1,180	—	—	1,287	1,292	1,170	—	—	1,241	957
Length of right foot	213	224	241	202	224	212	—	—	242	240	220	211	210	221	193
„ left foot	—	230	240	200	230	220	—	—	242	241	214	—	—	230	192
„ right upper limb ...	655	640	720	500	675	713	—	—	667	713	627	653	566	600	498
„ right fore-arm ...	377	400	425	321	417	399	—	—	401	433	400	390	345	395	306
„ right hand	143	157	164	140	174	164	—	—	172	183	165	154	155	160	129
Breadth at shoulders	322	330	370	245	326	325	—	—	337	331	320	—	—	357	265
„ hips...	253	294	295	214	272	253	—	—	272	271	217	—	—	265	210
Circumference of chest ...	—	—	—	—	745	750	—	—	806	756	770	—	—	778	618

TOTEMISM IN POLYNESIA AND MELANESIA.[1]

BY W. H. R. RIVERS.

THERE is at the present time so much difference of opinion as to what is to be regarded as totemism that it will not be out of place to begin this paper with a short consideration of the essential features of the institution. It is especially necessary to be clear on this point from the outset, for the object of this paper is to demonstrate the existence of totemism in parts of the world where its presence has been expressly denied.

A general review of communities which are undoubtedly totemic shows that there are three chief features of the relation between men and the classes of animals, plants or inanimate objects which constitutes the essence of totemism. The first and most important feature is that the class of animals or other objects are definitely connected with a social division, and in the typical form of the institution this social division is exogamous. Often the division takes its name from the totem, or this may be used as its badge or crest, but these points are less constant and essential. The second feature is the presence of a belief in kinship between the members of the social division and the totem, and in the most typical form there is belief in descent from the totem. The third feature is of a religious nature; in true totemism the members of the social division show respect to their totem, and by far the most usual method of showing this respect is the prohibition of the totem as an article of food. When these three features are present, we can be confident that we have to do with totemism. In anthropology as in other sciences, however, phenomena do not always exist in their typical form, and there are many cases to be found where totemism has departed from these typical characters and remains none the less totemism. Thus if a totemic people give up the practice of exogamy and come to regulate marriage entirely by blood-kinship, the totem will no longer be the sign of an exogamous division, but it may remain connected with some other social division, either the tribe as a whole or the people inhabiting a certain district, village or hamlet, or even a family in a sense more or less wide. If it were found that the supposed totem were connected with individuals only, or with groups of people who stood in no definite relation to other social divisions, we should have much more hesitation in accepting the connection as one indicating totemism. Again, if a relatively advanced people come to believe in their descent from heroes or gods, they may drop their belief in descent from, or even in kinship with, the animals or other objects connected with their social division and yet the transitions between their condition and that of neighbouring peoples may leave no reasonable doubt that the remaining features are those of true totemism. Once more, the value of totemic animals or plants as articles of food may lead to the disappearance of the prohibition of the totem as an article of diet, and yet some restriction on the use of such food on certain occasions, or under certain conditions, will probably survive to show the respect for the totem which once took a more complete form.

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[1] All the new facts recorded in this paper form part of the work of the Percy Sladen Trust Expedition to the Solomon Islands.

The examples I give in this paper derive much of their interest from the fact that they illustrate some of these changes which have obscured but not concealed the true nature of the institution.

I propose to divide my facts into two groups dependent on geographical rather than ethnographical considerations: one group derived from Polynesia and Fiji; the other from the Melanesian islands from the New Hebrides to the Solomons. I will begin with the former.

POLYNESIA AND FIJI.

The presence or absence of totemism in Polynesia has only been discussed, so far as I am aware, in connection with Samoa. The facts on which the belief in its existence has been based have been derived from the account given by Turner.[1] About the facts there is no dispute, and the difficulty has been in the interpreting. In his work on Totemism, Dr. Frazer[2] claimed that the connection between man and animals described by Turner was definite totemism, a position for which he was taken to task by Professor Tylor,[3] who followed Turner himself in regarding the animals as deities which might quite well be wholly independent of totemism. In Fiji there has been a similar course of events. Williams[4] described a number of cases of a special relation between men and animals which were claimed by McLennan[5] as totemism, and he was followed in this by Frazer.[6] The former regarded the gods of Fiji as developed totems. Here again Tylor[7] raised objections and stated that, in the absence of any evidence of totems or totem-clans in Fiji, McLennan's opinions were only to be regarded as conjectures. Dr. Haddon has pointed out to me that Mr. Fison[8] regarded the food-taboos of Fiji as relics of totemism, and further it is evident from Mr. Basil Thomson's recent book[9] that he has regarded the existence of totemism in Fiji as more or less obvious and as not in need of definite proof. Quite recently Father de Marzan[10] has recorded the existence of what he believes to be totemism in Fiji, and has given a most valuable account of some of its features. While in Fiji last year, I learnt a number of facts which seemed to me to indicate the presence of totemism most decisively, and a communication sent home by me from Fiji was published in *Man.*[1] As these facts have already been published, I will only here recapitulate the chief points. The people inhabiting the mountainous districts in the interior of Viti Levu form a number of small independent communities, each of which has a sacred animal which none of the community eat. Further, the smaller divisions of the community (*matanggali* or *tokatoka*) have also in many cases sacred animals or plants peculiar to themselves which none of the division may eat, though free to the rest of the community. The institution of exogamy does not exist, so far as is known, in Fiji, marriage being regulated by kinship, and the social organisation of the people has departed so widely from one founded on exogamy that it is impossible to tell which of their social divisions corresponds to the exogamous clan or sept. We have here a case in which one characteristic of typical totemism is not present, but we still have the apparent totem associated with at least two kinds of social unit. The third character of totemism, the belief in descent from the totem-animal, comes out among these inland people in a more decided manner than in any other case of which I have had experience. Here, in collecting a genealogy, an informant went back from human to human ancestor till as a perfectly natural transition he would state that the father of the last mentioned was an eel or other animal. In the special case of eel-ancestry the transition from animal to man was given as having taken place eight generations ago, and Mr. Joske told me that in several cases he had found the animal-ancestor nine generations back. In these cases the sacred animal is believed to be the ancestor of the whole people, but there is also a belief in descent from the sacred animals of the smaller divisions of the community.

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[1] *Samoa a hundred years ago*, London, 1884, pp. 25, 28, 35, etc.

[2] *Totemism*, Edinburgh, 1887, pp. 23, 25, 88.

[3] *Jour. Anth. Inst.*, 1899, N.S., vol. i, p. 142.

[4] *Fiji and the Fijians*, London, 1858, vol. i, p. 220.

[5] *Studies in Ancient History*, Second Series, London, 1896, p. 213.

[6] *Loc. cit.*, p. 94.

[7] *Loc. cit.*, p. 141.

[8] *Annual Report on British New Guinea*, 1897–8, Brisbane.

[9] *The Fijians*, p. 115.

[10] *Anthropos*, 1907, Bd. ii, p. 400.

I do not think there can be any doubt that in the case of these mountain tribes we have to do with true totemism. It is in fact typical totemism except in the absence of association with exogamy, but there remains a clear connection with other social divisions just as might be expected in a community in which exogamy has been replaced by a different method of regulating marriage.

I assume that the Fijians, as Melanesians, have at some time possessed the usual Melanesian institution of exogamy and that it has disappeared. If anyone doubts this, definite evidence can be adduced in favour of the assumption. These inland tribes therefore furnish a clear case of totemism which has lost one of its characteristic features owing to a change in their social organisation.

In the case of the coastal people of Viti Levu the case is very different. Here my own evidence and that furnished by Williams and other writers shows the existence of deities with certain animal attributes and especially with the power of changing into animals. These deities are connected with the people of certain districts or villages, who are not allowed to eat the animal connected with their god. Evidence of belief in descent from the forbidden animal is absent.[1] If this evidence stood alone, as it did when McLennan and Tylor wrote, it could not be said to be more than strongly suggestive of the existence, or rather of the previous existence, of totemism, but when we take the facts in conjunction with those obtained from the inland tribes, the case for totemism assumes a different complexion, and the mere suggestion of totemism is changed to a very strong probability that we have to do with the remains of the genuine institution. To make the case certain, we want a more complete chain of conditions intermediate between those of the mountain tribes and the people of the Mbau and Rewa districts, and more detailed investigation would almost certainly provide these intermediate links.

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[1] *Man*, 1908, vol. viii, No. 75, p. 133,

If this position be accepted we seem to have a case of the development of totem-animals into gods, but I propose to leave this point till after I have dealt with Polynesia. Before I leave Fiji, I should like to refer briefly to the evidence of de Marzan. He states that each tribe has two principal totems, in each case a tree and an animal, and secondary totems in the form of vegetables or fruits, such as yams, taro and bananas. The principal totems may not be eaten or destroyed, while the secondary totems are eaten. I only heard of plant-totems occasionally, but this was probably due to the very imperfect nature of my inquiries owing to the short time that I was in the country. It is just possible, however, that the three tribes whose members I saw do not resemble in every respect those from whom de Marzan obtained his information. As in the case of the totems discovered by me, most belong to social groups which de Marzan calls tribes, while occasionally smaller divisions have totems peculiar to themselves. Nothing is said about any belief in descent, but some very interesting native traditions are given which suggest a belief in a kind of connection between man and totem different from that of descent. As to the existence of totemism, I think that the account of de Marzan and myself leaves no doubt, but much further evidence is needed on the exact nature of the totemistic beliefs and practices, especially in relation to the history of totemism described by de Marzan and to the possibility I have already indicated that there may be different species of totemism in different parts of Fiji.

During a very brief visit to Apia in Samoa I made inquiries from two independent informants as to the existence of totemism. The facts given agreed in general tenor with those recorded by Turner and I give a brief *résumé* as they bring out one or two points not mentioned by that author. One of my informants told me that each district had its *atua;* that the *atua* of his district on the outskirts of Apia was the *fe'e* or octopus; that this animal was the *atua* of about 400 people; and that there was a house for the octopus at a place called Falipouma. The *atua* of the next district was the *lulu* or owl, belonging to about 500 people and living at Sagata. In another district the *atua* was a big kind of shell. In each case in the old time the people did not eat the animal which was their *atua*, but my informant was quite decided on the point that there was no belief in descent from the *atua*. In the old war times the *atua*, whether octopus, owl or shell, used to call out so that all the people could hear, and the people would then be glad and know that there was going to be a fight. The owl used to fly in front of his people as they went to battle. Another informant spoke of each family having an *atua*, but I was not able to find out what he meant by a family. His own *atua* was a large stone called *Kalinga i*, and he gave the shark and garfish as other examples, while in some cases the *atua* was a tree. In the old time it was believed that those who had the shark for an *atua* were in no danger of being troubled by a shark when they went into the sea. It is evident that in Samoa there is a close connection of certain animals with certain social groups, especially, according to one of my informants, with the people of certain districts, and the members of each group were not allowed to eat their *atua*, but it seemed clear that there was no belief in descent from the sacred animal. Of the three cardinal signs of totemism we have thus only two, and one of those not in the typical form. In Samoa, as in Polynesia generally, exogamy does not exist and marriage is regulated exclusively by kinship, and we might therefore expect that if totemism exists, the totems would be connected with some other social grouping. Taking the Samoan condition standing alone one would scarcely be justified in diagnosing totemism, but when taken in conjunction with Fiji, the doubts must largely disappear. The condition is almost exactly the same as that of the coast people of Fiji, and if the latter is totemism it will be hard to deny that the Samoan condition is the same. An interesting feature of the Samoan condition is the indication of the totem acting as an omen-animal and it is noteworthy that de Marzan[1] has recorded definite divination and omen-telling through the totem in Fiji.

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[1] So far as my own evidence is concerned, this point was not inquired into, and I think it is possible that the belief exists.

In Tonga I was told that each family had its *otua*,[2] some of which were animals and some stones, while a man might also be an *otua*. Examples of animal *otua* were the octopus, the flying fox, and the pigeon. My informant did not know of anyone who had a plant as *otua*. An animal was never eaten by those whose *otua* it was, and I was told that there was definite belief in descent from the animal. This scanty Tongan evidence distinctly strengthens the belief that we have to do with true totemism, for while there is a close resemblance with the beliefs and practice of Samoa there is in addition the belief in descent from the totem-animal.

The clearest evidence for the existence of totemism in Polynesia[3] is derived from Tikopia. This is a tiny island about 120 miles south-east of the Santa Cruz group. It is inhabited by people who appear to be physically almost pure Polynesians. They certainly have a Polynesian language and their general institutions (to be recorded elsewhere) resemble in their main features those of Polynesia rather than those of

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[1] *Anthropos*, 1907, Bd. ii, S. 401.

[2] Mariner referred to such *otua* (vol. ii, pp. 106 and 111 in the first edition), but evidently thought them of little importance compared with the greater deities.

[3] There can also be little doubt that the condition described by Mr. Stanley Gardiner in otuma (*Journ. Anth. Inst.*, 1898, vol. 27, pp. 429 and 467) indicates true totemism.

Melanesia. These people call a number of animals *atua*, a word which they also use for an ancestor. Some of these animal *atua* belong to the whole community and may be eaten by no one on the island; others belong to one or other of the four sections into which the people are divided, the Kavika, the Taumako, the Tafua, and the Fangalele.

The Kavika have the *feke* or octopus, which they may not eat, but it is also forbidden as food to the whole people. The Taumako may not eat the *toke* or sea-eel, nor may they eat a bird called *rupe*, and these prohibitions are limited to this division. The Tafua may not eat the *tuna* or fresh-water eel, nor may they eat the flying fox (*peka*) or the turtle (*fonu*), these two latter animals being also prohibited as food to the whole community, though regarded as especially sacred to the Tafua. The Fangalele may not eat a small black bird called *moko*, nor may they eat a fish called *one*. The *fai* or stingray may not be eaten by anyone, and it did not seem to be sacred to any special division. A man of a division who may not eat a certain animal may also not kill it. If one of the Fangalele caught an *one* fish he usually threw it back, but he might give it to a man of another division. On the other hand, I was told that if a man of one division killed the animal sacred to another division he would fall sick, and would then send for a man of the division to which the animal belonged, and the latter would call on his *atua* to make him well. If the fresh-water eel sacred to the Tafua were killed, the spring supplying the pool where it lives would dry up. If anyone killed a flying fox it was believed that the coconut trees would cease to bear. The case of the turtle appeared to be exceptional in that, while especially sacred to the Tafua, it was prohibited to all the chiefs, but might be eaten by the common people of the other three divisions. It turned out, however, that the removal of the prohibition so far as the common people is concerned was quite recent and that the abstention of the chiefs was due to their greater conservatism.

It was quite clear that there was a belief in descent from the animal *atua*. This presents difficulties when a division has more than one *atua*, but according to my informant in some cases a division had more than one animal ancestor. He said that the Kavika were descended from the octopus, and the Taumako from the eel, the story being that in the old times a man of each division died and became an octopus in the one case and an eel in the other. The Tafua believe chiefly in their descent from the flying fox, but they also believe that a second man of this division became after death a fresh-water eel. Similarly, two men of the Fangalele became animals, one the *one* fish and the other the *moko* bird. Thus the belief is not so much in descent from an animal as in descent from a man who became an animal.

In addition to these animals there are also plant *atua*. One of these is a plant with large leaves like the taro, called *kape*, which is sacred to the Kavika and may not be eaten by the people of that division while free to the rest of the community. This plant seems to belong to the same category as the animal *atua*, and it will be noticed that it belongs to a division which but for this would have only one sacred object. Three of the divisions have also vegetable *atua* which seem to belong to a different category. These are the yam, the taro, and the coconut, belonging respectively to the Kavika, the Taumako, and the Tafua. These plants might, however, be eaten by all, but the Kavika do not like to see anyone cut the taro with a knife, and they scrape off the skin with the shell of a mussel. In this case it was said that it was the top of the yam which was especially regarded as the *atua*. Similarly, the Taumako do not like to see the taro cut with a knife, and here again it was a special part, the eye of the taro, which was regarded as the *atua*. The Tafua also objected to a knife being used to open a coconut, and always used a stone. This restriction on the use of a knife is of course recent, and is an interesting example of the feeling that sacred objects should not be subjected to usages which have come from without into the ordinary life of a people.

The special relation between each division of the people and their sacred plant is shown in the planting season, the first yams being planted by the chief of the Kavika, while the chief of the Taumako plants the first taro. The chiefs of the respective divisions are also the first to eat their sacred vegetables. In the case of the coconut the special privilege of the Tafua is that its chief has the power of imposing a *tapu*.[1] The Fangalele have no plant *atua*, but their chief assists the chief of the Kavika in planting the first yams.

There can be very little doubt that in the case of the animal *atua* we have true totems. The condition is not one of typical totemism, for the institution is not associated with exogamy. The four divisions intermarry with one another, and marriage also takes place between members of the same division. I was told that marriage was regulated entirely by kinship, and that so long as there was no consanguinity it was a matter of indifference whether the wife of a man was of his own or of a different division. The situation thus resembles that of Fiji, Samoa, and Tonga in the absence of an association between totemism and exogamy, which is perfectly intelligible in face of the fact that in all four places the regulation of marriage has come to be based on kinship. The situation as regards the vegetable *atua* is different. The *kape* of the Kavika falls into line with the animal *atua*, and is probably a true totem, but it is possible that the connection between three of the divisions and the yam, taro and coconut is quite distinct from totemism and has had its origin in some other category of belief concerning the connection of man and other living things. There is in the case of these three plants no belief in descent, and as the objects are eaten, only one of the three cardinal signs of totemism is present, and that not in its typical form.

There is a very close resemblance between the vegetable *atua* of the Tikopians and the secondary totems of de Marzan in Fiji. In both cases the vegetables could be eaten, but certain precautions were taken in their use. Just as the Tikopian will not use a knife to cut his yam or open his sacred coconut, so the Fijian will not take off the rind of his sacred yam, nor cut the tuber, but puts it whole into the oven. In each case we have a vegetable which is sacred to a division of the people and is yet eaten. In both cases there are other objects which may be regarded as true totems, and I am inclined to regard the customs connected with these common articles of diet in both peoples as something only accessory to totemism which may have had an origin quite independent of totemism proper.

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[1] These customs will be described fully elsewhere.

Before I leave the subject of Polynesian and Fijian totemism I should like to deal with the question of the development of gods from totem-animals. If we accept the view that the relations between men and animals in Samoa and Fiji indicate true totemism, it would seem to follow naturally that the gods of these peoples have had their origin in totems. I have myself assumed that this has been so in my article on Fijian totemism, but further consideration has led me to revise this opinion. McLennan saw in the Fijian Ndengei a god developed from a totem—in this case a snake—but it is clear that Fijian tradition represents Ndengei as a man who came to Fiji from another place, and it is far more probable that the deity is an apotheosised man; that he was a man who made a great impression on the people of his time and has since become a god just as heroes have developed into gods elsewhere. His connection with the snake may have been due to this animal having been his totem, or the connection may have arisen in some other way.[1] If this has been the course of development in the case of Ndengei, the same may have happened in other cases.[2] It is probable that in Fiji the gods or god-like beings have been developed, at any rate in many cases, from heroes and that the animal nature of the gods is merely an indication of the close relation universally believed by totemistic peoples to exist between a man and his totem. The evolution would not be simply from totem to god, but from hero and totem together to god. It is true that in the case of the mountain people I was told that the totem-bird of the Nandrau had given certain rules of conduct to the people[3] and seems thus to have behaved like a god, and I do not wish to deny that the more direct evolution may have taken place, though I suspect that the indirect method has been the more usual.

TOTEMISM IN MELANESIA.

At the present moment it cannot be said that the presence of totemism in Melanesia (excluding Fiji) has been definitely demonstrated. In the Solomon Islands, Codrington described the connection of animals with exogamous social divisions, but did not regard this connection as an indication of totemism. In the Banks' Islands and the New Hebrides the same author has described a few cases of connection between men and animals which again may possibly indicate totemism, but only as the most fragmentary relics. Totemism, however, begins to appear definitely in the north and Ribbe[4] has recorded totemism in the Shortland Islands, and it is probably definitely present in the Bismarck Archipelago.

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[1] According to Basil Thomson (*The Fijians*, p. 17) the serpent nature of Ndengei is merely a modern gloss.

[2] A Samoan example seems to be that of the octopus brought to Samoa from Fiji by a chief (see Turner, p. 28).

[3] *Loc. cit.*

[4] *Zwei Jahre unter den Kannibalen der Salomo-Inseln*, 1903, p. 140.

On my way to the Solomon Islands last year I passed through Melanesia from the New Hebrides onwards and paid especial attention to the relations between men and animals or plants. The locality in which I found the clearest evidence for the existence of totemism was in the middle of the chain of islands, in the Santa Cruz group consisting of the island of this name, the Reef Islands, Utupua and Vanikolo, and I will therefore begin my account with these.

The Reef Islands.

I visited the group of islands known as the Matema or Swallow group and obtained information both there and from some natives of the islands who were on the missionary steamer, the *Southern Cross*.[1] The people of the islands present a mixture of Melanesian and Polynesian elements. In physical appearance they vary much, some having a more Melanesian and others a more Polynesian character, but so far as I could see, they inclined much more to the former. In language they show a similar mixture; in those islands I visited it was Polynesian, but I was told that there are islands or districts where the language is definitely Melanesian.

In these islands there are a number of social divisions which are definitely exogamous, each having one or more animals which they may not eat, while, as in Tikopia, there are also animals prohibited as food to the whole community. The exogamous divisions, called *mata*, have names, and I was told of eight altogether, though some of these are unrepresented on any one island. In the island of Nukap or Nukapu there are four divisions, the Pelembo, the Pependal, the Penvel and the Pelengam, while on the island of Peleni there are five, two of which, the Pelembo and the Pependal, had the same names as those of Nukap, while the others are the Pelewe, the Pekuli and the Pepali.

I could not obtain a fully satisfactory account of the animals prohibited to each division, chiefly because my informants were few in number and each could only speak positively about his own division. The Pelembo may not eat the eel and on Nukap this prohibition extended to both the sea and fresh-water kinds. On Peleni, on the other hand, none of the Pelembo eat the sea eel, while the fresh-water eel or *tuna* is eaten by some of the division and not by others, there being a difference of opinion at the present time as to whether it is the same animal as the sea eel or another. The difference of opinion is probably only one indication of breaking down of the taboo. Another indication of such breaking down is that, while the turtle is not eaten by the Pelembo of Nukap, it is eaten by those of Peleni, although it was said that if there was sickness on the island it would not be eaten by any of the people. The Pelewe of Peleni may not eat the flying fox (*peke*) nor the stingray (*fai*), nor may they eat a fish called *awau*, which my informant identified with a picture in a natural history book of a Scorpœna.

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[1] I should like here to express my very great indebtedness to the members of the mission and especially to the Rev. W. J. Durrad and to the Rev. C. E. Fox for their help in collecting most of the facts recorded in this article.

The forbidden animals of the other divisions were all fishes which I was not able to identify, except that one was the *onu*, which was evidently the same as the *one* of Tikopia, for both were identified with the fish which is called *one* in Mota. It will be noticed also that the eel, flying fox, turtle and stingray are all also sacred animals in Tikopia, and that they have the same names in the two places. In Nukap certain fishes were prohibited to the whole community.

I was told definitely that in all cases there was belief in descent from the forbidden animals, though this belief is evidently of a vague kind. The Reef islanders have a common house for men corresponding to the *mandwai* of Santa Cruz and the *gamal* of the Banks' islands, and it appeared that each division or *mata* should have its own house or *afalau*. At the present time people live indifferently in these houses and do not confine themselves to one of their own division, but if there should be a fight the people owning an *afalau* would drive out members of hostile divisions. It is probable that at one time each division had its own *afalau*, and that the present condition is due to the fact that some of the divisions have decreased so greatly in number that they have not kept up a house of their own, but have joined in with others, and that this has led to a general breaking down of the old limitation which kept people to their own *afalau*.

The case of these islands differs from those so far considered in that we have now to do with typical totemism. The animals forbidden as food belong to exogamous divisions of the community, though these divisions have names otherwise derived, while there is also a belief in descent from these animals. The fact that each division has more than one totem may be due to the fusion of divisions, the tendency to which can be seen at work at the present time, while it is also possible that we may have in these islands a fusion of two peoples, one Melanesian and the other Polynesian, each of which was in possession of totems at the time of their fusion.

Santa Cruz.

My only information here was obtained from two young natives who could only speak definitely about the regulations of their own divisions or *nau*, but it was sufficient to leave no doubt in my mind that genuine totemism existed on this island. Both came from the small island of Temotu at the north-west corner of the larger island of Ndeni, but they were confident that the condition they described was general in Santa Cruz, and I learnt from Melanesians who had been on Norfolk Island that the natives of Santa Cruz had always been remarkable at the Mission School on account of the number of things they may not eat.

I have since found that the existence of totemism in Santa Cruz has already been pointed out by Wilhelm Joest, whose notes on the subject have been recorded by Baessler.[1] Joest states that there are ten *nau* which never marry with one another and take their names from certain animals or plants, each of which may not be eaten by the members of the division to which it belongs. These objects are the following:—The *mbua* or shark, the *natu* or dolphin, the *betila* or whale, the *kuli* or dog, the *mbo* or pigeon, the *kio* or fowl, three fishes called *niöda*, *mbu* and *mbilla*, the *talao* or pawpaw and two other plants, the *niaka* and *kanalapiti*. Joest states that anyone who eats the prohibited fishes or the pigeon will fall to pieces, his teeth dropping out, while one who has a plant as a totem is not only prohibited from eating it, but may also not dig it. Those who have the dog as totem may not give any of their food to a dog. Further he states that a man would not utter a word if the name of his totem formed part of it.

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[1] *Neue Südsee-Bilder*, 1900, S. 386.

My informants could only give the names of four divisions, and it is possible that only some of the full number are represented on the island of Temotu. The four *nau* took their names from the *mbu*, a fish, the *mbua* or shark, the *mbembla*, a red fish which resembles the trumpeter-fish and the pawpaw which they called *tambao* instead of *talao* as given by Joest. They said that each division had in addition a number of other objects which they might not eat. Thus the *mbu* people in addition to the fish of this name might not eat the octopus (*mo*), a sea-snake called *vo*, a red yam called *ningiamb* and the fowl (*kio*). Again, the *mbembla* division might also not eat the turtle (*ou*), the *londoi*, a sea crayfish, the octopus and a big banana called *papindo*. According to them the *mbua* people might eat the white part of the shark near the tail, only the flesh lying under the black part of the skin being prohibited. They said that a man might not marry a woman of his own *nau*, and that the people of each division believed in their descent from the animal from which they took their name.

The *mbembla* people were said to have red eyes, but this was the only example that could be given of mental or physical resemblance with the totem.

We have in this island all the cardinal signs of totemism; exogamy, belief in descent and prohibition of the use of the eponymous object as food. The *mbembla* of my informants is not given by Joest, but it may be another name for one of the fishes he records. Otherwise the two accounts agree, though one is more complete in some respects and the other in others. Though both are evidently but fragments of what is yet to be obtained, their agreement can leave no doubt that we have to do in this island with genuine and typical totemism.

Vanikolo.

On this island Mr. Durrad and I were able to make a more satisfactory inquiry into the subject of totemism and found there, not only the existence of the institution, but its presence in a very interesting form. There are on this island ten exogamous divisions, each taking his name from a totem object. These ten divisions are named after the *mere*, a fish; the *vesenamaka* or hermit crab; the *vere* or stingray; the *nomerue*, a fish; the *ive*, the sea-lion; the *wanue*, a mullet; *wire*, water; *nepie*, fire; *tegmete*, or bowl; and *ambumi*, grass.

In all the cases in which a division takes the name of a fish, this fish may not be eaten, while there are restrictions of a different kind for the people of other divisions except the fire people, in whose case I could not discover that there was any taboo. The *wire* or water people may not drink the water of a certain bubbling pool; the members of the *tegmete* division may not eat food prepared in a bowl and the *ambumi* people may not walk on grass.

In all cases the people are believed to owe their descent to the object from which they take their name. The *nepie* division is descended from a fire which the people say can still be seen; the *tegmete* people are descended from a child which floated to Vanikolo from some other place in a bowl; the *ambumi* people believe that grass gave birth to a female child. The *wire* people are descended from water and the remainder from their respective fishes. Here the three cardinal signs are present in every case except that there is no restriction in the case of the fire people. The *tegmete* example is particularly interesting. There can be little doubt that this division is descended from some woman who came from another island and some real or supposed incident in connection with her arrival was seized on as the badge of her descendants, while a somewhat fanciful restriction came to be imposed on them in order to bring them into line with other divisions. It illustrates well a possible method by which such objects as the heavenly bodies, fire, water or the rainbow may come exceptionally to be totems; they may be chosen as badges for a new member of the community whose totem is unknown, some object being fixed on to take its place. In the neighbouring island of Utupua the conditions are probably the same as in Vanikolo.

It is quite clear that in this district in the heart of Melanesia we have genuine totemism, but the case is very different when we turn to the islands south of Santa Cruz or to the Solomons which lie north-west of it.

THE SOLOMON ISLANDS.

These islands are far from having a uniform culture and in some regions there is no totemism or only its faint relics, while in others it is present. According to Ribbe[1] it is present in the Shortland and Treasury Islands at the north-west end of the group, but as these islands are now being thoroughly studied by Mr. G. O. Wheeler I will not include them in my survey of the group. Ribbe states that the totemism of the Shortlands extends to the northern end of Choiseul, but otherwise we know nothing of this island. In the rest of the Solomon Islands there may be said to be three distinct cultures. In one group consisting of New Georgia, Ruviana, Simbo or Narovo, Ganongga (Ronongo) and Vella Lavella there is no exogamy, marriage being regulated by kinship, while descent is through the male. Here there is nothing which by any stretch of the term could be regarded as totemism. In the most eastern group again, consisting of San Cristoval, Ugi, Ulaua, and Malaita (Mala), there is also male descent with marriage in general regulated by kinship, though there may also be some village exogamy, and here again there is little or no evidence of the existence of totemism.[2]

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[1] *Loc. cit.*

[2] In Malaita offerings are made to images of sharks, sword-fish or bonito, and these animals are said to be ancestors (Codrington, *The Melanesians*, p. 174). We know, however, very little

It is in the intermediate group consisting of the islands of Florida (Nggela), Ysabel (Bugotu), Guadalcanar (possibly only the northern half), Savo and probably part of the Russell Islands that we find definite exogamy, the people of each island being divided into several sections, the members of each of which are not allowed to intermarry.[1]

The number of divisions varies in different islands. In Florida, where the divisions are called *kema*, there are probably now only four, the Honggokama or Manukama, Honggokiki, Nggaombata, and Kakau, two others given by Codrington, the Himbo and Lahi, having either died out or been absorbed into other divisions. Over the greater part of Ysabel there are only three, the Dhonggokama, the Vihuvunagi and the Posomogo. In Guadalcanar I was told of six *kema*, the Lakwili, Kindapalei, Haumbata, Kakau, Kiki and Simbo. The latter divisions are, however, regarded in a different light from the rest, both being said to be branches of the Lakwili. On Savo there are five divisions called *ravu*, the Gaumbata, Dhonggo, Lakwili, Kikiga and Kakauga.[2]

Each of these divisions has one or more sacred objects, and when these are animals they may not in general be eaten, while there is in some cases belief in descent from an animal which may not be eaten. These sacred objects must be considered separately for each island.

In Florida the sacred objects are called *tindalo*. I could not make any inquiries myself in this island, and must content myself with giving Codrington's account. The Honggokama may not eat the pigeon, but they may eat the bird called Manukama, from which they take their second name. The Kakau, on the other hand, may not eat the *kakau* crab, from which they take their name, while they are also forbidden the parrot, *Trichoglossus Massena*. The Nggaombata may not eat the giant clam, nor the Lahi the white pig.

In Ysabel the sacred objects are called *tindadho*. The Vihuvunagi have as their *tindadho* the *manuhutu* or eagle which they may not eat, the Dhonggokama have the *mbelama* or frigate bird and the Posomogo the *higara*, a parakeet. In each case the *tindadho* may not be eaten. I was told by a man who belonged to the Vihuvunagi that this division also had as *tindadho* the shark (*ele*), crocodile (*vua*), snake (*poli*), eel (*oloi*), and thunder (*rete*), and that the four animals might not be eaten. He could not tell me what were the associated *tindadho* of the other divisions, and it is possible that some of the above are common to the whole community.

In Guadalcanar a much ampler account was obtained than elsewhere, each division or *kema* being found to have a large number of *tinda'o*, the *l* of *tindalo* having dropped in this island.

The Lakwili have as *tinda'o* certain men who were said to have been the first

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about this island and San Cristoval, and it is quite possible that some form of totemism may be found here. The southern end of Guadalcanar is even less known.

[1] The existence of these divisions was first recorded by Woodford, *A Naturalist among the Head-hunters*, London, 1890, p. 40.

[2] The *g* in these words is the Melanesian *g*, which in this island might well be transliterated as *ghr*.

men of the clan, certain images and two animals, the *mauvo* or eel and the *kohe*, a small fish, neither of these fish being eaten by the members of the division. The Kindapalei have as *tinda'o* their first man, together with a snake called *choholisi*, the moon and sun spoken of together in one word as *vulamanaso*, and a sacred fire called *lake tambu*. The Haumbata have also their first men, a shark called *baheanapombo* and the *naroha*, a pigeon, neither shark nor pigeon being eaten. About the other divisions the information was less definite, but it seemed that neither the Kakau nor Kiki could eat the shark, while the Simbo were forbidden the monitor lizard.

In Guadalcanar the *tinda'o* are much reverenced, and my informant, a Christian, said that they were worshipped. If a Haumbata man wishes to kill an enemy on the land he goes to a special place belonging to the *naroha* bird and calls on the bird for *mana* (power) and *susuliha* (strength). He offers food in the form of a pudding as well as fish, pork and tobacco, and it is Naroha who gives him the *mana* which enables him to kill his enemy. If, on the other hand, the Haumbata man wishes to kill his enemy on the sea, he makes offerings to Baheanapombo, and this shark will break the canoe and eat the enemy.

The sacred snake (*chopolisi*) of Kindapalei is a very big creature which lives on a rock by a place called Koli. The place is forbidden to all except the Kindapalei, and the people of that division only go there to worship him. If others wish to pass the place, they must go in a canoe or walk by far out on the reef. The Kindapalei people take puddings and other offerings to the snake and obtain *mana* from it just as the Haumbata get *mana* from their bird Naroha. The Kindapalei also obtain *mana* from the sun and moon, and from the sacred fire called *lake tambu*. The latter is a fire which springs out of the rock at a certain place, and when the people take offerings these are burnt in the fire. If the people kill a man they take the tongue and lips as an offering to *lake tambu*. There is a special spot sacred to the moon and sun, *vulamanaso*, where similar offerings are made.

If the animal *tinda'o* are eaten, the result is illness; thus a man who eats the *naroha* bird gets sick, and blood comes from his mouth and nose. To make him well, offerings are made to Naroha and the man may recover. If the *baheanapombo* is eaten sores break out on the body of the offender.

The Savo name for the sacred objects is *manjali*. The Gaumbata have, in addition to an image and a spirit woman, the *vava* or monitor lizard, which they do not eat. The Dhonggo have a spirit man together with the *tambu kosu* (sacred bird), which is the same as the *manuhutu* of Ysabel. The Lakwili do not eat a small monitor lizard called *sangavulu*, while the Kikiga have three prohibited animals, the shark, a large flat fish called *limanibarava*, and the *kurau*, a pigeon.

The sacred aspect of the animal *tinda'o* does not seem to be present in Savo,

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[1] In connection with the association of men, animals and the heavenly bodies as the possession of exogamous divisions of the community, it is important that in the sacred houses of Florida Codrington (*Melanesians*, p. 94) records the presence of images of birds and fish, crocodiles and sharks, the sun and moon and men. This makes it highly probable that there existed in this island an association of *tindalo* resembling that of the Kindapalei of Guadalcanar.

where there is nothing which my informant called worshipping, but the animal is merely *tambu* and is not eaten.

In all cases the divisions are exogamous, and there is a definite correspondence between the divisions of different islands, thus the Kindapalei of Guadalcanar correspond to the Dhonggokama of Ysabel, the Honggokama of Florida, and the Dhonggo of Savo. A Guadalcanar man belonging to the Kindapalei would be not allowed to marry a Dhonggokama woman if he went to live on Ysabel, but would be limited in his choice to the women of the other two divisions of that island. The Dhonggokama of Ysabel appear to correspond to both the Honggokama and Honggokiki of Florida. The Lakwili of Guadalcanar or Savo correspond to the Vihuvunagi of Ysabel and the Kakau to the Posomogo. Codrington explains the different number of *kema* in the different islands by the splitting of a clan into two sections, but it is possible that there may also have been a dying out in some cases, as appears to have happened or be happening with the Himbo and Lahi of Florida. The late Dr. Welchman told me that there was one district of Ysabel where there are only two divisions, and this may have been due to such a disappearance. So far we have seen that there is a definite association of two of the cardinal signs of totemism, exogamy and taboo of the animals as food with very definite respect in Guadalcanar at any rate. The third cardinal sign is less definite. Dr. Codrington states that the Florida people have some sort of belief in descent from the animals which they may not eat, but in one case the ancestor which gave its name to a *kema*, the Manukama, could be eaten, and the native accounts represented the forbidden animals as having been associated with human ancestors rather than as ancestors themselves. I was not able to go into this question of descent, but an Ysabel man gave me the legend of the origin of the Vihuvunagi, which probably represents the kind of tradition by which the natives account for the connection between men and animals. An eagle (*manuhutu*) called Vihuvunagi laid eggs in a nest on a big tree. When the eggs broke there came out of one a woman who lived up in the tree. After a time she came down and the people made her their chief. She had many children, and sent them all over the island, and the Vihuvunagi people are all descended from these children.

Dr. Codrington, who first described the condition in the Eastern Solomons, did not regard it as totemism. He based this opinion on the fact that the Manukama people of Florida may eat the bird of that name and on the statements of the natives that the animal only represents some former famous member of the clan. Further, he believed that the practice of not eating certain animals was of modern growth, and was merely the result of prohibitions laid down by individuals. As an example of such a prohibition he describes how a man of much influence in Ulawa had at his death prohibited the eating of bananas, saying that he would be in the banana, and the natives still said that they could not eat this man when they referred to the prohibition on the banana.

These facts are very interesting in illustrating how totemic restrictions may grow up or be altered, but they can hardly be allowed to take the Solomon Islands' institution out of the category of totemism. We have here not only what I have called the three cardinal signs of totemism, but we have also the very decided veneration for the totem which sometimes accompanies the fully developed institution. When everything else is so characteristic of totemism, it seems extremely unlikely that the prohibition on eating the totem should have been absent till recent times, and until further light is thrown on the matter, I think the facts must be held to indicate the existence of totemism. The view of the natives that the sacred animal only represents some famous ancestor presents no difficulty, and points only to a condition similar to that of Fiji (see p. 163), in which there is probably confusion in the native mind between descent from the animal itself and descent from a man associated closely with an animal.

The evidence, taken as a whole, points strongly to the condition being one of genuine totemism, but in a relatively late stage, in which the totems and other sacred objects, including human ancestors, are all classed together as *tindalo,* while, so far as the social aspect is concerned, it is possible that there has been a considerable departure from the original condition. The only piece of evidence I can bring forward in favour of this latter position is derived from a place called Kia at the north-western end of Ysabel. When I was in the Western Solomons I was told that at Kia they had a large number of social divisions which appeared to be clans. When in Ysabel I asked the late Dr. Welchman about this, and he said that they had there a large number of divisions in place of the normal three of the rest of the island. Shortly before his death he sent me a list of these divisions showing that each of the three normal Ysabel sections was divided into a number of smaller divisions, each taking its name from an object which Dr. Welchman called a totem. He did not expressly state in his letter to me that these totems were not eaten, but I have no doubt that his use of the term was meant to imply this.

The following is Dr. Welchman's list:—The Vihuvunagi have six subdivisions, taking their names from the *mbahei,* a tree like the banyan; the *mbaumbahulu,* a blue pigeon; the *rumu* or dugong; the *hombarae,* tree with edible leaves; the *mamara* or paper mulberry, and the *etingi,* a large banana. The Dhonggokama had nine divisions, *nggahili,* a white cockatoo; the *taunu* or sun; the *gogosulu* or porpoise; the *nggenggefe* or flying fox; the *rurugu,* the bivalve *Unio*; the *paike* or opossum; the *kopi* or boatbill heron; the *memeha sondu* or toucan, and the *varalu,* a fish. The last two divisions are now extinct, one having disappeared during the last five years and the other within fifteen years.

The Posomogo have twelve divisions, the *kusa,* (?) kingfish; the *tengge* or turtle; the *posa,* a black banana, wild and inedible; the *ronggisi,* a shell fish, *Pteroceras lambis*; the *kikituru,* a night bird, identified from a picture with the jerfalcon; the *mbulau* or *Conus generalis*; the *etieti* or large areca nut; the *sesehu,* a grass; the *fafalehe,* a clam; the *koilo* or bright yellow coconut; the *taraoa,* a yellow land snail (*Carocolla*), and the *pakehana,* (?) a small sword fish.

Here we have a grouping of what appear to be totemic clans into a number of larger groups. If these subdivisions once existed all over Ysabel and the other islands where exogamy is still practised and have disappeared, we have a ready explanation of some of the complexities of the present condition. Kia is at the end of Ysabel nearest to Choiseul, and it is possible that investigation of this latter island may help to throw light on the matter and may bring the totemism of Ysabel into relation with that of the islands at the other end of Choiseul, but at present all that can be done is to wait for further information which may elucidate the nature of the condition in the Eastern Solomons which, if it be not the real article, has simulated it so closely.

SOUTH MELANESIA.

The evidence for or against the existence of totemism in that part of Melanesia lying south of the Santa Cruz group is very slight. I did not visit New Caledonia nor the Loyalty Islands and have no information from that region. My stay in the Southern New Hebrides was too brief to obtain any new material myself, but the Rev. J. W. Mackenzie, D.D., of Fila Island, has very kindly given me a note on the social divisions of the Efatese.[1] On the island of Efate there are ten or more divisions called *naflak*, which are exogamous, each taking its name from a plant or animal, but Dr. Mackenzie does not say expressly that there is any prohibition of the use of these as food. The following are the objects from which ten of the *naflak* take their names: the *namakaur*, a tuber like the arrowroot; the taro; the yam; the coconut; the breadfruit; the *ber*, a kind of fungus; the *namal*, a kind of wild yam; the *nifa*, a plant with large leaves like those of the banana; the *kram*, a shell, and the *wiit* or octopus. Though we do not at present know whether there are any restrictions connected with the use of these objects, their association with exogamy, and their definite function in providing names for the exogamous divisions, makes it extremely probable that we have to do with genuine totemism. If so, we have a striking example of a community where plant-totems are more numerous than those derived from animals.

In the northern New Hebrides my own investigations were limited to the Island of Raga or Pentecost. Here there is the characteristic Melanesian dual organisation, but I could find no evidence that there were subdivisions of the moieties with objects which might be totems. The two moieties take their names from Tagaro and Suqe, and these have no connection with animals or plants. I am indebted to the Rev. H. N. Drummond for the information, however, that the Suqe natives call those of the Tagaro division sow (*matan dura*) and giant clam shell (*matan talai*), while the Tagaro natives call those of the Suqe division turtle (*matan avua*), *matan taqataqa*, a flower, and taro (*matan qeta*) with reference to their origin. These names are generally used only in sport or anger, and it is possible that we have in this derisive use a relic of totemism, a survival of a condition in which within each moiety there were a number of totemistic groups as in many Australian tribes.

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[1] See also Macdonald, *Oceania*, Melbourne and London, 1889, pp. 159 and 181.

In the Banks' and Torres Islands I made very full inquiries into facts which might bear on totemism, and in neither group could I obtain any evidence of the institution. In the Torres Islands I obtained a long list of animals that were not eaten, but the abstention had in all cases a natural cause. In the island of Mota in the Banks' group, one of the two divisions of the community took its name from the *talai* or giant clam-shell, a fact of some interest in connection with what was found in Pentecost Island, but hardly enough to furnish a basis for the past existence of totemism. In none of the other islands of the group nor in the Torres group could I discover any connection between the names of the social divisions and those of animals or plants.

While there is thus no evidence of developed totemism, there is one institution of these islands which may possibly have had a totemic origin. Professor Hutton Webster[1] has shown that there is much to be said in favour of the development of secret societies from social divisions such as totemic clans, and it is possible that they may have had such an origin in the Banks' Islands. It is perhaps significant that in the region comprising the northern New Hebrides, the Banks' and the Torres groups where totemism is absent, the secret societies of Melanesia appear to have reached their highest development.

Though developed totemism thus appears to be absent, there was found in the Banks' Islands a group of beliefs which are of the greatest interest in connection with the possible origin of totemism. In these islands devoid of the developed institution there exist beliefs which would seem to furnish the most natural starting point for totemism, beliefs which Dr. Frazer has been led by the Australian evidence to regard as the origin of the institution.

In the island of Mota in the Banks' group there are many individuals who are not permitted by the custom of the island to eat the flesh of certain animals nor to eat certain fruits nor touch certain trees. The ground for the prohibition in most cases is that the person is believed to be the animal or fruit in question, his mother having received some influence from the animal or plant at conception or at some other period of pregnancy.

The course of events is usually as follows: a woman sitting down in her garden or in the bush or on the shore finds an animal or fruit in her loincloth. She takes it up and carries it to the village, where she asks the meaning of the appearance. The people say that she will give birth to a child who will have the characters of this animal or even, it appeared, would be himself or herself the animal. The woman then takes the creature back to the place where she had found it and places it in its proper home; if it is a land animal on the land; if a water animal in the pool or stream from which it had probably come. She builds up a wall round it and goes to visit and feed it every day. After a time the animal will disappear, and it is believed that that is because the animal has at the time of its disappearance entered into the woman. It seemed quite clear that there was no belief in physical impregnation on the part of the animal, nor of the entry of a material object in the form of the animal into her womb, but so far as I could gather, an animal found in this way was regarded as more or less supernatural, a spirit animal and not one material, from the beginning.

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[1] *Primitive Secret Societies*, New York, 1908, p. 135 *et seq.*

It has happened in the memory of an old man now living on Mota that a woman who has found an animal in her loincloth has carried it carefully in her closed hands to the village, but that when she has opened her hands to show it to the people, the animal has gone, and in this case it was believed that the entry had taken place while the woman was on her way from the bush to the village.

I could not find out what interval usually elapses between the disappearance of the animal and the birth of the child, but this did not seem to be regarded as a matter of importance, for it was clear that this belief was not accompanied by any ignorance of the physical *rôle* of the human father, and that the father played the same part in conception as in cases of birth unaccompanied by an animal appearance. We[1] found it impossible to get definitely the belief as to the nature of the influence exerted by the animal on the woman, but it must be remembered that any belief of this kind can hardly have escaped the many years of European influence and Christian teaching which the people of this group have received. It is doubtful whether even a prolonged investigation of this point could now elicit the original belief of the people about the nature of the influence.

When the child is born it is regarded as being in some sense the animal or fruit which had been found and tended by the mother. The child may not eat the animal during the whole of its life, and if it does so, will suffer serious illness, if not death. If it is a fruit which has been found the child may not eat this fruit or touch the tree on which it grows, the latter restriction remaining in those cases in which the fruit is inedible. Thus a fruit used as a taboo mark would be useless for this purpose to one who owed to it his origin.

A case has occurred quite recently in which a girl unwittingly offended against the prohibition. She was an eel-child, and when quite young had gone to fish with some companions on the shore. They caught some fish including an eel, and all were cooked by them on the shore in the same pot, and were then eaten. A few hours afterwards the child began to rave and became quite mad. The people inquired into the doings of the child and found that she had not eaten any part of the eel, but only the fish cooked in the same pot, and this was held to be sufficient to have produced her condition.

I inquired into the idea at the bottom of the prohibition of the animal as food, and it appeared to be that the person would be eating himself. It seemed that the act would be regarded as a kind of cannibalism. It was evident that there is a belief in the most intimate relation between the person and all individuals of the species with which he is identified.

A further aspect of the belief in the animal nature of a child is that it partakes of the physical and mental characters of the animal with which it is identified. Thus, if the animal found has been a sea-snake, and this is a frequent occurrence, the child would be weak, indolent and slow; if an eel, there will be a similar disposition; if a hermit crab, the child will be hot-tempered; if a flying fox it will also be hot-tempered and the body will be dark; if a brush turkey, the disposition will be good; if a lizard, the child will be soft and gentle; if a rat, thoughtless, hasty and intemperate.

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[1] This information was obtained with the aid of the Rev. C. E. Fox and the Rev. W. J. Durrad, to whose help I am very greatly indebted.

If the object found has been a fruit, here also the child will partake of its nature. In the case of a wild Malay apple (*malmalagaviga*) the child will have a big belly, and a person with this condition will be asked, "Do you come from the *malmalagaviga*?" Again, if the fruit is one called *womarakaraqat* the child will have a good disposition.[1]

In the island of Motlav not far from Mota they have the same belief that if a mother has found an animal in her dress, the child will be identified with that animal and will not be allowed to eat it. Here again the child is believed to have the characters of the animal, and two instances given were that a child identified with a yellow crab will have a good disposition and be of a light colour, while if a hermit crab has been found, the child will be angry and disagreeable. In this island a woman who desires her child to have certain characters will frequent a place where she will be likely to encounter the animal which causes the appearance of these characters. Thus, if she wants to have a light coloured child, she will go to a place where there are light coloured crabs.

I inquired very carefully whether a case had ever been known in which the prohibition of an animal as food due to this belief had been passed on to a child or other descendant, but it was clear that such an idea was quite foreign to the beliefs and customs of the people. The taboo is purely an individual matter. In every respect but this, there is the closest resemblance with totemism. In the food prohibition and the belief in descent from or identity with the animal or plant, we have two of the constant and characteristic features of totemism, while the belief in the physical and mental resemblance of man and animal is found in typical totemism as in that of the Western people of Torres Straits.[2] We have only to have the taboo and belief in descent and resemblance transmitted to a group of descendants to have typical totemism. We have here a perfectly natural and intelligible explanation of the origin or of one origin of totemism, and yet it occurs in a people whose social system has no totemic features at the present time, whatever it may have had in the past.

In 1905 Dr. J. G. Frazer[3] advanced a hypothesis to account for the origin of totemism which was based on the belief of certain central Australian tribes which assign to a child the totem belonging to the place where the mother first becomes aware of the new life within her. In his "conceptional" theory Dr. Frazer assumed that the belief that a child had an animal or plant nature, or one derived from any other object, was due to something which had impressed itself on the mind of the woman at the time of quickening. He suggested that something the woman had recently eaten would probably most often furnish such an object, and as other causes he suggested that if at the time of quickening she had been "watching a kangaroo, or collecting grass-seed for food, or bathing in water, or sitting under a gum-tree, she might imagine that the spirit of a kangaroo, of grass-seed, of water, or of a gum-tree had passed into her, and accordingly, that when her child was born, it was really a kangaroo, a grass-seed, water, or a gum-tree, though to the bodily eye it presented the outward form of a human being." In this passage Dr. Frazer has assumed a series of situations very closely resembling that which I have actually found to exist in the Banks' Islands, and there is definitely established the existence of the belief which forms the basis of his conceptional theory. It is true that in the Banks' Islands the belief and attendant customs have not become the starting point of totemism, but there are many ways of accounting for this, whether it be that totemism never existed in these islands or whether the institution was once present and was lost during the development of the secret societies.

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[1] The disposition of a child may have other causes. A child born in a place where the grass sways from side to side will be like it, undecided, turning from one purpose to another, while one boy now on Mota is fond of playing because an old man dreamed shortly before his birth of children playing round a pool.

[2] *Report Cambridge Expedition to Torres Straits*, vol. v, p. 164 *et seq.*

[3] *Fortnightly Review*, 1905, vol. 78, p. 455.

The most important feature of the Banks' belief is that the supposed animal or plant nature of the child is accompanied by a taboo on the flesh of the animal as food or on the use of the plant. Perhaps the most universal feature of totemism is the existence of a restriction of this kind and the conceptional theory of totemism furnishes a ready explanation of this universality. Further, it enables us to understand not only belief in descent from the totem, but also the ambiguity which so often accompanies this belief. Thus in the Eastern Solomons we have seen that while acknowledging their descent from the totem-animal, the people regard this animal rather as the representative of a human ancestor than as the ancestor itself. This belief becomes perfectly natural if the ancestor has two natures, one human and the other animal; if he is, as in the Bank' Islands, an animal in human form. The characteristic features of totemism become perfectly natural if the institution has grown out of such a belief as that of the Banks' islanders, or the similar beliefs suggested by Dr. Frazer.

It is improbable that totemism has had everywhere the same origin, or rather, one of exactly the same kind, and in some parts at least of North America the absence of belief in descent from the totem and the nature of the myths make it probable that there the institution has had its origin in the guardian animal. It is interesting that a belief in a guardian animal should also exist in the Banks' Islands, and it is significant that in this case again the mysterious connection between man and animal is accompanied by a taboo on the flesh of the latter.

A Banks' islander often stands in a definite relation towards an animal which is called his *tamaniu*. This seems to be at the same time the familiar of the person and also a kind of life-token. A person who wishes to have a *tamaniu* goes to one who has *mana* for this purpose, or probably who is the hereditary possessor of a stone which has such *mana.* This man carries out a rite in which he drinks the juice of certain leaves and then deposits the leaves in some cleft of the rocks; it must be in some place where they cannot be touched by salt water. The people wait till the leaves stink and then watch the cleft to see some animal come out, and when this appears it is the *tamaniu* of the person on whose behalf the rite has been performed. The animal is taken up and put in a suitable place and visited from time to time.

The *tamaniu* has two functions. If its owner wishes to injure anyone he will speak to the man who has procured the *tamaniu* for him, saying that he wishes the *tamaniu* to injure his enemy, and as a result the *tamaniu* would do so in the way peculiar to itself; if an eel it would bite him; if a shark it would swallow him. If a man who has a *tamaniu* falls ill he will go to visit it, or if he cannot go himself will send another to inspect it. In either case the animal is turned over carefully to see what is the matter with it; it may be found that some object may be sticking in its skin, in which case the object is removed and the man recovers. It may be that the animal is found to be dying and in this case when the animal dies, the man will die also.

I was given a striking account of a recent occurrence in connection with a *tamaniu,* which had in this case been brought to Mota from another place. The owner, a blind man, went to the small island of Merig and asked a man there to carry out the appropriate ceremony. A large lizard of the kind called *puasa* appeared, which was brought to Mota and put near the village in the roots of a big banyan tree, where it grew very large. Long after the blind man fell ill and told a friend to go and see the animal, using the words "Look at me," referring to the lizard as himself. The man went alone to the tree, but when he got there, was too frightened to call upon the animal. He was sent again, but this time took some companions to keep up his courage. When they got to the tree the man called the name of the animal, *Rosasangwowut,* and the *tamaniu* came out. It was a very large lizard, much larger than any other the men had seen in Mota. When it came out it seemed sluggish and walked as a sick man would walk. The son of the blind man, who was one of the companions, then asked the *tamaniu* if it was ill, and the creature nodded its head and then returned into the roots of the banyan tree. They went back and told the blind man that he was ill, and not long after he died. At the same time the banyan tree fell and is still lying on the ground across the pathway, and this was taken as a sign that the *tamaniu* was also dead.

Mr. Durrad was told by a Motlav man in the Torres Islands that there was a similar belief in Motlav, but we failed to obtain any account of it, though the manner of our informant left no doubt in our minds that the failure was due only to his reticence. The person who has an animal as *tamaniu* will not eat any animal of that kind. So far as totemism is concerned, the points of interest in the *tamaniu* are this taboo on the flesh of the animal and the clear identification of the man with the animal. It was quite certain that the connection of man and animal with the attendant taboo was a purely individual matter and was never transmitted to another generation.

There are other cases again of taboo on the flesh of animals in these islands, thus, in the island of Motlav, a man who had certain medical powers might abstain from the flesh of some animal believing that if he did not do so, his medicine would lose its efficacy. Again, it was habitual, in mourning, to abstain from certain foods, but there was no evidence that these taboos were ever transmitted as a similar taboo, described by Codrington, has been transmitted in the island of Ulawa in the Solomons.

We have thus in the Banks' Islands, at least, two beliefs, which, with their attendant customs, have probably formed the origin of totemism elsewhere, and yet they exist in a people who are at the present time singularly devoid, not only of the developed institution, but even of the definite survivals which exist in so many places. Whether we have in the secret societies the evidence of a remote condition of totemism or whether this institution has never had its seat in these islands, it is clear that at the present time the beliefs in question exist in total independence of totemism. If these beliefs, or one of them, have at some time formed the starting point of totemism, it is clear that the institution has lived and died or else has disappeared in an institution in which its presence is only with difficulty to be recognised, and yet the beliefs have continued apparently in a pristine form. The existence of such beliefs in the absence of totemism shows how unjustified it is to assume the previous existence of totemism in a people on the ground of stories of men turning into animals or of animal familiars.

ASSOCIATED TOTEMS.

It will have been noticed that in most of the Polynesian and Melanesian examples brought forward in this article, a clan or other social division has had more than one totem. In many cases obvious reasons why this should be so can be given. Thus in the case of the multiplication of totems in the mountain tribes of Fiji, recorded by myself, it is clear that while one is the totem of the tribe, others belong to smaller divisions of the tribe. A man has two totems, one as a member of the tribe and the other as member of a *matanggali* or *tokatoka*. If my supposition is correct that the totem of the tribe has been derived from that of some chief,[1] this becomes perfectly natural, for a man will acquire this new totem from the chief in addition to that which he had previously had as member of his division of the tribe. Again, in such a place as the Reef Islands where there is definite mixture of two races, the multiplicity of totems may have been a direct result of the fusion. Another origin may be the fusion of divisions of one people or the absorption of the surviving members of a nearly extinct division, and I have suggested that this may account for the condition which is now to be found in the

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[1] *Man*, 1908, p. 134.

Eastern Solomons. It would be natural that the whole division should adopt the totems of the elements which have been fused together. A still further explanation is to be found in the transition from matrilineal to patrilineal descent where this has taken place ; thus Dr. Haddon and I have suggested[1] that this may be the origin of what we call the subsidiary totems of the western tribe of Torres Straits.

There is, however, a case in which none of these explanations seem directly applicable, viz., in the association of trees and animals which has been recorded by de Marzan in Fiji.[2] This seems to furnish a parallel to the condition which Dr. Seligmann has described[3] as linked totems in South-east New Guinea. In this region each social division has four totems, one a bird, another a fish, a third a snake, and the fourth a plant ; a division having in two cases more than one bird. The divisions owning these totems have sections living in hamlets, and there is the possibility that there may have been a process of fusion, but even if this were so, it is extremely unlikely that the zoological characters of the totems of the elements should have been so nicely adjusted as to produce the result which Dr. Seligmann found.

From a native of the Trobriand Islands whom I met in the Solomons I learnt that a similar linkage of totems occurs in those islands. It appears to be less developed than in Dr. Seligmann's case, but this may be only apparent, the result of the incompleteness of my information. The people of the island of Kiriwina, to which my informant belonged, have four exogamous divisions, each of which has a bird and a fish together with another animal, but it is noteworthy that none of the four divisions take the name of any of their totem animals or plants, for each division has also a plant totem.

The Malasi have as bird totem the *bubuna*, a white pigeon, while of four-footed vertebrates they have the pig. The Likugu have the *munuveka* or fish-hawk and the dog. The Likosisiga have the *karaga* (*Eclectus polychloros*) and the crocodile, while the fourth division, the Likolibuta, have the *geigila* or crimson lory and the monitor lizard. Each division has a fish in addition to its bird.

Dr. Seligmann informs me that the example of linked totems from the Trobriands given in *Man* (1908, p. 163), applies to the Lukugu division, and adds that while the names of the fish totems of each clan were doubtful, there was no difficulty in ascertaining the plant totems of each division. Further, in every case he found the relative importance of the totems to be bird, four-footed vertebrate, plant and fish, while in addition there were upon Kiriwina a number of birds which were associated with the chief bird of each clan, but were regarded as of little importance.

The most remarkable feature of the totemism of Kiriwina is that though the people have matrilineal descent, it is the bird and fish of the father which may not be eaten, while the totems of the mother, and therefore of a man himself, may be eaten. There is evidently a belief in descent from the totem-bird, for a man will sometimes speak of it as *tabugu* or "my ancestor" (used also for grandparents and for the father's sister).

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[1] *Report Cambridge Expedition to Torres Straits*, vol. v, p. 180.

[2] *Anthropos*, 1907, vol. ii, p. 400.

[3] *Man*, 1909, vol. ix, p. 4.

There is a very close resemblance between the totemism of the Trobriands and that of South-east New Guinea, where also the father's totem receives more regard than that of the mother. The Trobriand condition is strongly suggestive of an old totemism which has become ineffective, while on the top of this there has come, with increasing recognition of relationship with the father, a new form of totemism characterised by the linkage which is its peculiar feature, a feature which the Trobriand example, however, still leaves to be explained.

In de Marzan's Fijian example we have an association which seems distinctly comparable to the linkage of New Guinea and the Trobriands, though there are only two instead of three or four linked elements. In Fiji the natives have a theory to account for the linkage, believing that the tree was primary, and that an animal found under each tree when they went to a new home became associated with it, and this native theory probably represents the kind of process upon which such linkage depends. It is certainly a late development of totemism.

An interesting example of a condition which might be on the way to linkage was observed by me in Guadalcanar. The Haumbata division of this island have two animal *tinda'o*; one which is invoked by a man who wishes to kill his enemy on land, while the other is invoked when the destruction is wished for on sea, and my informant, in speaking of these two, said that one *tinda'o* belonged to the land and the other to the sea. To the wizard, the possession of two such sources of help would appeal greatly, and it does not seem unlikely that the people of other divisions might like to have such a division of function themselves, and if they only possessed a land animal as totem might choose another from the sea. These two totems would certainly become the most prominent, owing to their serviceableness and we should then in course of time have a definite linkage of land and sea totems.

In Guadalcanar we thus have a condition which suggests how maleficent magic might produce a linkage of totems belonging to different classes of object, and it is not, I think, difficult to see how the beneficent magic which promotes the fertility of living creatures might similarly lead to such a linkage as that of the New Guinea and Trobriand examples.

NOTES ON THE BAGESHU.

BY THE REV. J. ROSCOE.

THESE brief notes are the outcome of a visit to Mount Elgon during June and July, 1908; they are only intended to clear the ground for further and fuller investigation at some future date.

The Bageshu are a Bantu race living chiefly upon the east and south-east slopes of Mount Elgon. They are a numerous people, estimated at not less than a million. They are a most primitive race and stand low indeed in the human scale; they are treacherous and utterly unreliable to persons outside their own clan, they are, undoubtedly, cannibals, though each clan, when questioned, denied the fact and pointed out another which followed the practice of eating the dead secretly. Their land might be called a land without graves owing to the practice of throwing out the dead towards evening under the pretext of leaving them for the wild animals, whereas the old women visit the bodies and take what they consider the prime pieces and leave the refuse to the wild animals.

Only people who have died from small-pox, suicides and thieves who have been killed in the act of entering a house by night, are buried; because they say they wish to suppress the disease, and in the other cases they are afraid of the ghosts.

The tribe has traditions that at one time they lived on the mountain and inhabited the caves which are abundant on the upper slopes. They say they worked down gradually each year, taking in fresh land as they descended, and that they followed lines straight down, each clan refraining from infringing upon the boundaries of its fellow clan. In this way they have now reached the lower slopes, and here and there are at work in the valleys.

These tracts are regarded as freehold lands of the clan and are most jealously guarded by them.

The sides of the mountain are terraced, and offer ample space for good gardens, and sites for villages; copious streams of excellent water flowing from the summit provide for the needs of the people, and also water the gardens through which they flow. Many of these streams form beautiful waterfalls, dashing down some hundreds of feet from the heights above upon the rocks below. There are numerous natural caves which have for ages past formed the strongholds of the people, who, in times of danger and raiding from their stronger foes, resorted to them until the enemy, tired out, moved on to some other more profitable field. Some of these caves were always provisioned, so that when an alarm was given, the people rushed off, driving their cattle along the steep paths into them. Most of them were inaccessible except by the one path which the people were able to guard. The cattle had to be kept in the caves during the day, and by night the men took them to pastures near, herding them under cover of the dark.

On the sides of the mountain visited, there was no trace of permanent occupation of the caves, nor was there any reliable information of there being cave dwellers; the caves are only used as places of refuge in the time of danger and war.

CLANS.

Though it was impossible to find totems amongst them, there was every indication of the system; the limited knowledge of the language, however, made it impossible to get at them.

The general attitude of one clan to the other is that of hostility, though there are times when they intermingle freely and are on the best of terms. Each clan has its own district and lands, and holds aloof from the next neighbour except when there are festivities which draw them together.

The women may always go where they wish and never meet with any opposition even when the clans are at war one with the other.

Names of the Clans.

Babesi.
Banyuwaka.
Bankoki.
Baholasi.
Bahuku.
Baduda.
Basukuye.
Baliyenda.
Baluke.
Balage.
Bakike.
Bapete.
Bakikaye.
Babeva.
Bakumunya.

Basihu.
Bamasiki.
Bakonde.
Bayobe.
Basane.
Balusekya.
Balukulu.
Bamoni.
Batunduye.
Babangobe.
Batisu.
Bambobi.
Bakumana.
Bafumbe.

MARRIAGE CUSTOMS.

As stated above, each clan seeks wives outside itself from one of its neighbours. There are no arrangements between the young people until after puberty; the advances are made by the men, who approach the women, though there is no notion of love between the parties. It is purely a financial transaction between the elders or parents of the couple, though a man seeks to find a woman who is strong and able to work to be his partner. Blood relationship is a bar to marriage, that is, a man may not marry any one of his father's clan and he also avoids his mother's clan; all the women of that clan are his mother's near relations, those who are her real sisters he calls his mothers.

In most cases the youth asks his father to go and make the arrangements with the girl's people as to the dowry. The parents, with some members of the clan, settle the sum to be given after asking the girl if she wishes to marry the youth; it then becomes a matter of time for the youth to obtain the cattle and other things asked for. The amount is generally six cows, from six to a dozen goats, and a few fowls; these the youth gets either by means of trading or begging amongst the members of his clan. When the sum has been paid the girl is claimed, but always remains one month longer at home, during which time she is feasted and made to look as well as possible so as to do credit to the parents' and to the clan to which she belongs. At the expiration of the time a number of her friends come to take her to her husband's home. They go in the evening and are allotted a house into which they crowd, the bride being also with them; for three days they remain there, and each morning go out into the bridegroom's garden and dig. The more land they can reclaim the better for the bride and her husband. The bridegroom's mother cooks for them daily and asks them to come to have their meals; custom, however, forbids them from complying, they have to obtain their food secretly, and also to eat it in secret. On the fourth day, they go to the bride's village, taking the bride back with them. A substantial meal awaits them, after which they dance and return to their homes. The bride remains another month with her parents, who prepare large quantities of beer which they send together with a goat and the bride to the bridegroom. The bride has only one attendant with her on her second journey, who stays one night and then returns to her people. The marriage is then consummated, and the wife goes about her daily tasks as an ordinary married woman.

The people are all polygamists and may marry sisters of the first wife if they wish; there are no restrictions as to the number of wives, nor how many they may take from one family.

ADULTERY.

A man who commits adultery is fined heavily; the money goes to the man who is wronged. In the case of fornication, the man has to bring the dowry and marry the girl. If he fails to do this and some one else marries the girl, the father of the child loses his child, and it is counted as the son of the man who pays the dowry. A woman who has a child prior to marriage is not despised, nor does this in any wise detract from her chances of marriage, on the contrary it is a proof to the man who wishes to marry her that she can have children, and thus adds to her value.

BIRTH.

It is essential that every woman should have children; if she fails to do so, her chief value in the eyes of her husband has gone. She is given a reasonable time to test her, and her husband will do all he can to assist her; he will pay the medicine men their fees to make drugs and thus give her every chance to become a mother. Should his efforts fail, he returns her to her parents, and demands the dowry he paid for her.

Though there are no special taboos for regulating the diet of a pregnant woman, still she takes precautions against various kinds of food which she thinks may do her child harm, and is more careful about herself and the work she does.

The husband of the woman is not allowed to take violent exercise, nor may he climb a tree, or go on to a house roof, or climb rocks, lest he should slip or over-exert himself, and thus bring on a miscarriage for his wife.

When the time draws near for her confinement, she asks some friend to come and act as her midwife; she is not, however, expected to need any assistance. If she is of a nervous disposition, some friend will come and stand behind her and hold her as she stoops, and shake her up and down until the birth takes place. They cut the umbilical cord quite short, and have no regard to it, nor any ceremonies connected with it. The afterbirth is buried in the house near the fireplace. For three days the mother remains in the house and is waited upon by the midwife, the hut is swept out and the mother washes herself and resumes her ordinary duties. When the child is old enough to sit up unsupported, it is named. The father gives it a name of one of his ancestors, the ghost of the person whose name has been adopted is supposed to take charge of the child, and should it be an illegitimate one, the ghost will kill it. In cases where a woman has been unfaithful, she gives the child another name secretly, and asks the ghost of the ancestor of the real father to protect it from the other ghost of her husband's ancestor.

If a child is sickly after being named, the parents consult the medicine man, who tells them the reason and prescribes for it. If he ascribes the illness to the guardian ghost, they change the child's name and call upon the new guardian ghost to protect the child.

TWINS.

When twins are born they beat drums with a special rhythm which conveys the information to the relatives. The relations hurry together to the place and hastily collect building materials and build a hut into which both the parents and the children are put for three days. They leave a small aperture through which the food is handed to the parents inside. On the third day one of the relations comes and cuts a doorway into the hut and allows the parents to come out; there is general rejoicing, feasting and music; after the usual bathing and purificatory ceremonies are over the parents make a tour of visits to relations and friends, where they feast and dance. The parents have to partake of food in common; should one of them either eat or drink without sharing with the other, one of the children will fall ill and die.

The children are supposed to be the gift of the gods.

PUBERTY AND CIRCUMCISION.

Both boys and girls grow up at home in their parents' house. At the age of about twelve boys are expected to undergo the operation of circumcision, and become initiated into the clan mysteries, and take up the duties of full members of it. The preparations for the circumcision ceremonies are made after the harvest is gathered in, when the moon is full. The boys who have summoned up courage to brave the dangers, meet at the appointed village a fortnight before the ceremonies take place. Their bodies are smeared over with white clay from head to foot and they parade the village daily singing and dancing.

On these occasions people from every clan meet together, old quarrels and clan feuds are for the moment forgotten and they mix one with the other as the greatest of friends.

On the day of the operation the boys are smeared over with black clay in the early morning, and each set go to their own village to beg goats and fowls; the chief of the clan, at whose village the ceremonies are to take place, kills an ox for a feast for the young people, a large piece of the meat is put upon the spike on the hut in which the boys are living, to be reserved for the end of the ceremony. On the way back from their villages the boys collect all kinds of missiles which they take back with them, and as they enter the village they attack it, throwing the missiles, and shouting, and dancing in their onslaught of the unseen foe. The boys are next brought into line by an elder, whilst an admiring crowd of both sexes stand to one side to see the performance. In front of each boy a round pad of grass is placed on the ground, and an egg put upon it; an old man then gives to each boy a bit of root to chew which has medicinal properties to stop the bleeding. The headman of the village next comes and addresses the boys, tells them about their customs, history, marriage customs; he tells them also who are the friends of each clan and who are its enemies, and impresses upon them the necessity of being brave to fight the battles for the tribe. After he has ended his address another man comes and smears each boy on the chest with a mixture of the contents of the stomach of a newly killed goat. Each boy then repeats a formula after the old man and jumps into the air three times, the first two leaps he alights with a foot on each side of the grass pad, the third time he comes down upon the egg, smashing it to atoms. Another elder now comes to them and pulls the foreskin of each boy well forward as he passes along the line. During this time the surgeon is in hiding in a hut near by, sharpening his knives and making his final preparations. Directly he sees the man has passed along the line, he slips out, and rapidly cuts off the foreskin from each boy and throws it over his shoulder without looking where it goes. He looks to see that the operation has been neatly done and trims off defects, and passes on to the next boy. When he has finished the whole row he rushes away and hides again. The boys have to stand rigid with their legs apart until the bleeding ceases. Some of the older women pass along the line after the surgeon to see that the work has been well done, whilst others bring plantain stems and place them behind the boys for them to sit upon in case they grow faint. Another man comes and smears some of the blood from each boy on his chest where the mixture from the goat's stomach has been smeared.

The foreskins are collected and buried near the chief's hut; when this is done a man mounts the chief's hut and cuts the meat into small bits and throws it down to the people, who eagerly struggle for it, because it is supposed to bring special boons to those who get it and eat it. When this ceremony ends the boys are conducted into a house set apart for them, where they remain until they are quite healed.

GIRLS AT PUBERTY.

The girls have a ceremony which they undergo at the same time the boys are undergoing their circumcision. They have a bit of flesh cut from either side of the *labia majora*, and then make the scarifications peculiar to them on their foreheads and stomachs. These scarifications are done with a crescent-shaped flesh hook; at one end of the hook is a ring for carrying it on one of the fingers, the other end is sharpened to a needle point. This weapon is used either by the girl herself or by one of her friends who help her to scarify herself. The flesh is pinched up between the thumb and finger and the hook run through it; several of these places are done at a time and fine dust from the wood fire rubbed in. As a rule the wound heals leaving a raised lump; should it heal with a smooth surface the wound is reopened and more ashes applied.

Both boys and girls at this time extract the front lower incisors.

When all the boys and girls are healed, the chief of the village and one of the elders take a goat and a fowl in the early morning and visit a sacred tree in the neighbourhood; they kill both the goat and the fowl at the root of the tree; the goat they eat, but leave the fowl on the spot. After the meal is over they proceed to a sacred pool, which is said to be guarded by a snake; they take with them a pot of beer, which they place by the pool, and wait until the snake has drunk the beer, and is intoxicated, when they seize it and break its fangs, rendering it harmless.

Directly the chief and elder leave the tree all the young people in the village who have undergone the rites of circumcision, visit the tree and follow them to the pool. Upon their arrival at the pool, the sons of chiefs first enter the water and wash, and after they have finished the other boys and girls follow them into the water. This purification they say makes them quite well and strong and enables the girls to have children.

In the evening the dancing commences together with beer drinking, and is kept up for several days. During this time there is the fullest license given to both sexes, men and women have promiscuous intercourse without any restraint. Sometimes when the beer is finished at the one village they move to another where more beer has been prepared, and continue the dancing day and night until the beer is ended.

SICKNESS AND DEATH.

When a person is sick the relatives send for the medicine-man to divine the cause of the illness. He consults one or other of his tests and generally ends by discovering some charms or medicine hidden away near the house which he asserts have been the direct cause of the illness; he therefore goes on to prescribe some potions for the sick man to drink, and soon heals him. His fee for this service is a goat.

In some cases the medicine-man decides to remove the illness by magic. He takes a fowl and rubs it against the place where the pain is severe, after this he goes to some waste land, digs four shallow holes, kills the fowl and divides it into four parts, and places a part into each of the holes; he then goes through a form of words, and commands the ghost to leave the man alone. One portion of the fowl he takes for the sick man, one is his own, the third is for the deity, and the fourth is for the troublesome ghost.

Sometimes herbs are rubbed over the sick man and buried in the path. It is believed the first person who steps over the herbs will contract the disease, which is lying in wait for someone, having been removed from the person who was sick.

In other cases when the sick person is a rich man, a goat or cow is killed, a small hut is built near the sick man's house in honour of the ghost which is supposed to be troubling the man, some of the meat and the blood are put into the little hut, whilst a large piece of the meat is placed upon the spike upon the top of the house. When the people gather together for the ceremony the medicine-man climbs on to the house and cuts the meat up into small pieces and throws it amongst the people, who snatch it up and eat it. In this way the sickness is scattered over a large number of people and is harmless, and they suffer no ill effects from it, whilst the sick man recovers.

If these remedies fail and the sick man dies, the relatives seek revenge upon the person who is charged by the medicine-man with being the cause of the death.

Directly a person dies the mourning begins, the body is generally kept a few hours only in the house, and then carried and deposited near by in some uncultivated land. The mourning goes on for three days, when the mourners shave their heads, and all except those closely connected with the disease go about their ordinary work. The near relations continue to mourn for three months longer, when an ox is killed, a feast made, and they again shave their heads and the mourning ceases. At the feast the principal members of the clan meet and appoint the heir, divide up the wives, and the cattle; the latter going chiefly to the members of the clan and not to the heir.

Hyænas are sacred animals, because they eat the dead and are thus supposed to be related to the people.

Ghosts.

The ghost of a person remains about the house the deceased used to inhabit, and from time to time makes its wants known to the inmates chiefly by dreams. Beer and food are placed near the door for the ghost, the person who places them outside calls to the ghost to be kind to the children, and not to harm them in any way.

Religious Beliefs.

Their religious beliefs are in a very crude state, they have no permanent temples nor appointed priests. The medicine-man is the repository of wisdom and skill, and acts as the medium of the deities. When occasion requires, the temple or hut is rebuilt and the offerings made, but directly the cause of anxiety passes, the temple is neglected and falls into ruin until required again, when a new one is built.

Mwanga is the name of the snake they worship; he has his place on a hill where his temple is built, when required, and has his special medium named Namwangala. He has power over disease, and makes known the cause of sickness, and tells how it is to be cured. Offerings of goats and fowls are given to him to appease him when sickness appeared. Women who are childless take offerings to him and beg for children.

Rock Spirits.

Most large rocks are supposed to be animated. At various times, when the elder of the village orders it, offerings are made of goats, fowls, and beer, whilst the children take plantains and small offerings of food. The rock spirits are supplicated by parents when their children are sick, and delicate people go to them in quest of health and strength. The rock spirit generally speaks through an elder of a village by means of dreams. After a vision the man takes a couple of fowls, one of which he kills at the base of the rock and eats on the spot, the other he takes home and keeps it to breed. With the young which he exchanges he obtains a goat, the young from the goat he barters for a cow, and thus becomes a wealthy man.

THE SPIRIT OF THE WATERFALLS.

There are also believed to be spirits of the waterfalls which fall in numbers from the precipitous sides of the mountain, dashing down hundreds of feet to the lower slopes.

To obtain the blessing which these spirits are supposed to bestow, the people go with vessels and catch the water as it falls, take it home and sprinkle it over the heads of the children, who are supposed thus to receive health and strength.

RAIN MAKING.

There are special men whose duties are to regulate the elements. They bring the rain when it is necessary, and cause sunshine when it is required. They have not always the most pleasant time, because their failure to produce the necessary rain is never attributed to inability, but to disinclination to accommodate the people. The people first try persuasion, bring presents and offerings to them, begging them to act for them; if the rain does not come they lose patience and demand it; if the men persist in their obstinacy, and if the rain does not come they resort to strong measures and deeds of violence. They rob them of their cattle, and if the rain does not come then, they proceed to burn their houses down, and the rain-makers are fortunate if they escape a severe handling, or even death.

The method commonly practised by the medicine-man is to take a couple of fowls which have been brought by the suppliant, and kill one of them by striking it on the head with a stick; he cuts it open by making an incision from the under side of the beak down the breast to the tail, then lays it open and examines the entrails for the markings upon them, and for any speck. These enable him to tell when the rain will fall. Sometimes he replaces the entrails and puts the fowl out in the sun for a time, and after the exposure he shakes the fowl about; if the entrails make a noise he prognosticates there will be strong wind which will destroy the crops. Having thus completed his investigations with the one fowl he proceeds to work upon the second, in the same manner, to see if it confirms the oracle from the first one. If the rains do not come the people take the strong measures mentioned above. If the strong measures fail, the people are reduced to seeking out the man, and again try by flattery and presents to obtain his help. They rebuild his house and restore his cattle and make reparation for the ill he has suffered. The man may agree to go to the extreme measure of a visit to the deity on the mountain which he professes to fear doing. A black ox is brought to him and several elders accompany him to some part of the mountain where the ox is killed, and they eat the meat except one leg; this, together with a quantity of beer, is taken to the priest who is in charge of the sacred pool on the mountain, as his fee to undertake the work of obtaining the rain from the water spirit. A huge snake is said to live in the spring, and attacks any one who approaches it to draw water. The priest and the rain-maker first make a clay trough into which they pour the beer, and the priest then takes his stand near this and puts a long beer tube into the spring. No sooner does he put the tube into the water than the snake rushes out and winds around him; the smell of the beer, however, saves him from death because the snake makes for it and drinks, and is soon overcome by it and becomes helplessly drunk. The two men at once break its fangs and render it harmless, and bring a number of water pots which they fill with the sacred water, and place near the well. The water thus drawn is sure to bring the rain, which will continue to pour down daily until it is stopped again by the priest.

When the people have had enough rain, they come again to the rain-maker, taking a substantial present of goats, fowls, and beer, and he goes again to the priest on top of the mountain, and they make the snake drunk once more, and overturn the pots of water, leaving them empty. The sun then begins to shine again and ripens the harvest.

WARFARE.

The wars are principally inter-tribal, though on rare occasions they combine to make a stand against a common enemy. The chief causes for the wars arise from theft, or infringing upon the land of another clan. They jealously guard the boundaries of their land, and if another clan steps over the bounds to cultivate, they enforce their rights by resorting to arms.

The men arm with bows, arrows, shields, spears, and stones. There is no order in battle, though they move in a compact body. Every now and again some one breaks out singly and rushes upon the foe. Sometimes two men may rush out to be met by a couple of the opposing army; it thus becomes a series of hand to hand fights, whilst the bulk of the army stands and look on. When one or two have been killed and several wounded the battle ends.

A man who has killed another is not allowed to return to his own house on the same day, though he may go back to his village; he goes into the house of a friend to stay the night. He kills a sheep and takes the contents of the stomach and smears his chest, his right arm, and head with this. His children are brought to him and he smears them in the same manner. He then takes the mixture and smears each side of the doorway and throws the rest upon the roof of his house. For a whole day he must not touch food with his hands, but takes all his meals by picking up the food with a couple of sticks and thus conveying it to his mouth. These restrictions do not extend to his wife; she is not only free from them, but goes to mourn for the man whom her husband has killed if she wishes to do so.

DANCES AND MUSIC.

The people seem to be very fond of music, especially of singing, which they accompany on some instrument which can keep the time for them.

Their musical instruments are the drum, harp, and bells for the thighs and ankles.

In their dances they usually march in circles, both men and women singing and marking the time with their feet, especially the men who have the bells either upon their ankles or thighs, whilst the others use the upper arm which they raise and bring down with a ringing smack upon their sides. In the distance to one side of the circle is the drum or drums which are kept going the whole time without intermission. The dances are generally performed after the circumcision rites are ended, where there is a good supply of beer.

The harps are used by the individual for private use in the home or to sit out with a few friends who accompany it with songs. Girls have a small harp made of reeds which they use to accompany their amorous songs to excite the youths.

DRESS.

Boys from birth to the time of circumcision go absolutely nude, and no man who has not been circumcised may wear any clothing. In some cases, youths shrink from the operation and go on from year to year postponing it. They may find some women who agree to become their wives and they may have families, but they can never claim to be full members of the clan, nor may they wear the dress peculiar to those who are full members. After the circumcision ceremony, boys wear a goat or sheep skin strung round the neck in front, and hanging down long enough to cover the member. The skin is often well dressed and decorated with an edging of beads of divers colours.

Young girls likewise go naked until the time of puberty. Their dress is a band for the waist made of plantain fibre, the strands of the fibre are twisted up into cord and fastened to the band and hang down some 18 inches. The owner is very particular about tying these strands together at the ends. One or two strands are plucked out and wound round the ends, binding them together like a rope; the ends are then cut to a certain length according to the owner's fancy. This dress is tied round the waist with the cords hanging down behind, the end is passed between the legs and threaded under the belt in front so that it hangs down over the belt. This is the complete dress of a married woman. A widow wears her grass apron hanging down at the back not passed between the legs. Many women wear a small grass apron 6 inches wide and 2 inches deep, but this is introduced from the Teso people.

ORNAMENTS.

Men and boys have both of the lower incisors extracted; they pierce small round holes around the edge of the ears and insert bits of grass or brass rings, and they also pierce the lobes of the ears for larger rings.

They wear roughly-made iron bracelets and four or five coils of iron rings round the upper arm. Numbers of them however have no ornaments; they have either bartered them or are too poor to get them.

Women scarify themselves profusely, they have two rows on their foreheads, from the cheekbone on the one side round to the cheekbone on the other side. They also have five or six rows of these marks down the chest and stomach.

Women extract three or four of the lower teeth and also pierce a hole through the lower lip. Into the hole they insert a small wooden button three-eighths of an inch in diameter and an inch thick, but more frequently they wear a lip stone inserted, which is some two inches long and gently tapered from the thick end, which is half an inch in diameter, to about a quarter of an inch at the other end. The stones are always white.

They wear roughly-made iron and brass rings on their fingers and toes and the flesh hooks which are used for scarifying their bodies are frequently worn on one of the fingers. Like the men, they wear the roughly-made iron and brass anklets and bracelets. They also wear bands of coloured beads round their necks and waists, and iron rings rubbed bright around their necks.

Cow Keeping.

They possess a small breed of cows which manages to climb and browse on the mountain sides like the goats. Both boys and girls herd the cows, which often mingle with the goats and sheep for herding. Both sexes are allowed to milk the cows; they use earthen pots for milk. The milk is as a rule boiled, grain being added as it boils; it is seldom drunk whilst fresh and warm. When a girl arrives at the age of puberty she is taken from herding, though a woman who marries a man who has cattle and no servants to herd them, will take them out in the early morning whilst her husband goes to cultivate. He returns from the field about ten o'clock and relieves her from herding and she returns to her household duties. The women always churn, and wash the milk pots.

When a cow has calved, the calf has the first day's milk, but on the second day the cow is milked and the milk boiled until it becomes a hard cake; the owner of the cow calls his relations to come and eat the milk with him and his wife. After the meal, the cow is milked in the ordinary way and the milk may be mixed with that from other cows.

They are fond of bleeding the bulls and cooking the blood, which is considered a great delicacy. The mode of drawing the blood is to tie a cord tightly round the animal's neck until the artery swells out, and shoot an arrow, which has a guard on it to prevent it from going in too deeply, into the artery. They draw off two or three pints of blood which they boil and make into a pudding. The animal soon recovers from its loss and is apparently none the worse for it.

Cultivation.

The cultivation of the plantain is their principal work, though grain is extensively cultivated and eaten. The plantains grow in the valleys and moist places on the sides of the mountain. Though grown in fairly large quantities they do not meet the needs of the people entirely, and they have to fall back upon the millet and sweet potato. The millet grown is a very small kind and is made into a coarse kind of porridge.

Fields for millet are roughly dug both by men and women towards the end of the dry season, and directly the rain comes the grain is sown. Both sexes take part in the sowing; shallow holes are made by one person who goes in front with a hoe and with one stroke lifts enough earth to make a place for the second person who follows with the grain, drops in a little and covers it with the side of the foot. In this manner maize, peas, and a variety of dwarf beans are sown.

Semsen is sown in small plots, to be used as a salad or savoury to eat with other kinds of food. When the harvest is ready to be reaped, both men and women go out to reap it and bring in each night what they reap. They use a small knife for reaping, with a blade not more than two inches long, and cut off the heads of the grain and drop them into baskets. When the grain has dried for a day or two they thrash it out with sticks and stow it.

When any person wishes to break in new land he has to obtain permission from the chief before he commences to work. The women do the initial digging and the men follow and prepare the ground for the seed. A small pot of seed is sent to the medicine man, who mixes it with herbs and pronounces over it some formula which ensures it growing; this seed is mixed with the general seed and imparts the blessing to the whole crop. When new land is being sown, a pot of beer is taken and poured upon the new field to secure the favour of the earth spirit.

Both the men and women work amongst the plantains, but the weeding of the grain crops devolves upon the men.

At harvest time an offering of first fruits together with some of the last year's corn and a fowl are sent to the medicine man for the deity before anyone dare touch the new corn.

NEW MOON.

At each new moon the drums are beaten and all the people turn out to dance. Children especially are expected to take part in the dances as they derive benefit from the moon.

BUILDINGS AND VILLAGES.

The huts are always round with conical roofs. There is an outer wall from two to four feet high, which is made by driving pointed stakes into the ground close together and forming a circle the diameter of the intended hut; these stakes are bound together at the top by strong bark cords, or a kind of creeper. In the centre a stout pole is let into the ground according to the height required for the hut; from this the rafters run to the walls. These rafters, radiating from the centre pole to the walls, are kept in place at equal distance apart by rings of reeds. These rings are tied at regular intervals to the rafters, being larger and larger as the walls are approached. The roof is thatched with a coarse kind of grass and the walls are plastered with clay on the inside; the floor is smoothed and a little fresh clay carried in and well beaten with short sticks, and as it dries it is rebeaten to fill up cracks and finally smeared over with cow dung and clay. The door, either of reeds or twigs, is made so that it can be pulled to one side, like a sliding door, a couple of posts keeping it in position by night. They do not as a rule fasten the doors, but only slide them over the opening to keep out wild animals. The fire burns in the middle of the floor and the smoke finds its way out through the grass roof as it can. The family lie on the floor round the fire by night, they have no bed nor bedclothes, they lie on the bare floor with the children around them. During the day the door is merely closed when the members are away at work; should a man wish to make his hut doubly secure he places his stick over the doorstep, and anyone crossing this realises he will not only be dealt with as a thief, but also have to meet the owner in a fair fight.

Huts are clustered together and surrounded by a growing fence; in some places there are only a couple of huts, whilst in others they number twenty or more. There are no sanitary arrangements, all the members retire to the nearest piece of waste ground to relieve nature.

GOVERNMENT.

Each village has its elder who tries petty cases in his own village, whilst more serious cases between village and village go to the chief of the clan. When cases are taken to the chief, the accuser takes a goat or a cow as a fee before the chief will summon the accused. If they are not satisfied with the chief's decision, they appeal to the fire test. They each take a fowl to the medicine man who hears the case, he then heats an iron hoe and applies it to the leg of first one and then the other; the one who is burned is the guilty person. Should they both be burned, they are both considered equally guilty.

Theft committed by day is punishable by a fine; the medicine man discovers the thief by his divination, and the fine is generally a cow. Theft by night is done usually by digging under the walls of the house. Should the owner be waked he stands by the place where the sounds are heard and waits for the person to come through; directly the head of the thief appears the man spears him, and then raises the alarm: the people rush to his aid, and the thief is despatched without mercy. The next day the body is taken to some waste land and burned.

MURDER.

When men of the same clan quarrel and one kills another, the chief of the clan tries the case, and the murderer has to leave the village and pay the father of the murdered man a sum sufficient to buy a new wife. The murderer has to take a goat and kill it, and smear his chest with the contents of the stomach of the animal, and go by night to the hut of the dead man, and throw some of the mixture over it.

If a man kills one of another clan, the members of the clan seek out either the murderer, or, failing him, some one of his clan about the same age as the person killed, and put him to death. If they are able they get a son of the murderer and they will sometimes wait a number of years until a child grows up in order to kill him when he reaches the age of the man who was murdered.

When two contending clans wish to make peace the chiefs come together to some place and sit down, a dog is brought and one takes hold of its head and the other of its hind legs, whilst a third man severs it in two with a large knife. The dog is thrown away and the clans are free to intermingle without any fear.

There are no taxes or rents paid to the headmen or chiefs, but only such presents as the individuals care to take; they usually take presents of grain at harvest time. The only compulsory fees are those for trying cases. The chiefs have little or no power over their people, theirs is a nominal chieftainship.

Games.

Their chief amusement is dancing, which seldom takes place, except at full moon, new moon, and after the circumcision ceremonies. They have wrestling matches also, and boys have a game of kicking; the latter is not so much a game of strength as of agility.

Hunting.

Antelopes and small game are hunted with the spear and club. They run the animals down and either club or spear them to death. Often the division of the meat causes angry words which end in a free fight.

Boys trap herbivorous rats which they, and also their elders, consider a delicacy.

Leopards are hunted with the spear and shield; numbers of men go out and encircle the place where the animal is supposed to be in hiding. They beat down the grass as they advance, and all sing and shout at the top of their voices, until they reach the spot where the beast is. They try to club it down before it has time to spring, and present their shields if it springs before they have clubbed it, to save their bodies from its claws, whilst another either spears or clubs it.

Hyænas are followed and clubbed to death if they take any goats; as a rule they are left in peace because they clear off the remains of the dead.

Elephants are hunted from trees, the men go out and select their trees and climb into them, taking with them several spears. Beaters then turn the animals towards the trees and the men spear them as they pass under. Sometimes it takes a great many spears to bring down one of these monsters if none of them have touched a vital place. The hunters follow up the wounded animal for days until it is left by the herd owing to sickness; they then surround it and kill it. The first man who speared the animal claims the tusks, whilst the beaters and others hunters take a share of the meat.

PATRICK COTTER—THE BRISTOL GIANT.

By Edward Fawcett, M.D., Professor of Anatomy, University College, Bristol.

[With Plate XV.]

This giant, who was well known during the eighteenth century, was for the greater part of his life an inhabitant of Bristol. Born at Kinsale in Ireland of humble parentage he followed the calling of a bricklayer, but finding his great size inconvenient was glad to embrace the offer of a Bristol showman to come over to this country and be exhibited at a salary of £50 per annum. Being, however, sublet to another showman, Cotter struck, and was thrown into a debtor's prison on a fictitious charge of debt. Fortunately for him a well-disposed Bristol citizen, who happened to have business with the sheriff's officer, noticed Cotter, and being struck not only with the poor fellow's misery but by his simple demeanour, made inquiries about him, with the result that Cotter was set free and the contract declared void. The interest of this benefactor did not cease here, for he gave Cotter a sufficient sum of money to enable him to start business on his own account, and at the Bristol Fair held at the time of his release he exhibited himself with such success as to realise £30 in three days. From this time forward Cotter's success was assured, and it is related that he retained to his death the liveliest sense of gratitude to his benefactor for his kindness, very honourably mentioning him in his will.

At the time Cotter commenced to exhibit himself there was living another Irish giant, the well-known O'Byrne, who had adopted the professional name of O'Brien. His success and reputation apparently appealing to Cotter, the latter appended the name of O'Brien to his own, so that he is henceforth known as Patrick Cotter O'Brien, and was so styled on his coffin plate. This assumption of the name of O'Brien has given rise to a certain amount of confusion in the popular mind between two different people. Whatever errors may have arisen on this score are set at rest by this communication. O'Byrne now adorns the Museum of the Royal College of Surgeons in London. Patrick Cotter " O'Brien " lies in the now disused Roman Catholic Chapel in Trenchard Street, Bristol.

Professional Career.

After his entrance into the world as a professional giant at Bristol we next hear of Cotter at Northampton, which he seems to have visited about the year 1785, and his visit is described in 1826 by a Northampton barber in the following words:—

"It is now nearly forty years since this prodigy of nature first made his appearance in the town of Northampton. Like other great men he occupied his travelling carriage, with this exception, that Mr. O'Brien's vehicle was certainly of a more lofty description. He then appeared to be in his seventeenth year. His features were regularly formed, his countenance remarkably healthful, and his standing position erect and commanding. The mildness of his temper was conspicuous, and he possessed intelligence of a superior order to that usually discovered by the individuals of the trade to which he was apprenticed, viz., that of a bricklayer. His stature, 8 feet 7¾ inches, did not make him appear disproportionate. In every respect he was a well made man. At this time O'Brien was the guest of a Mr. Page of the George Inn. During his residence at this hospitable inn the honour devolved upon me to attend him in my official capacity of tonsor. After the exhibition of the day, and when the dwarfs of Northampton had retired to their cribs, this proud giant would take his morning walk, measuring with amazing strides the distance between the George Inn and Queen's Cross. Although I considered myself a clever pedestrian at that period of my life, I found myself under the necessity of changing my walk into a run in order to bear him company. Mr. O'Brien expressed himself as being greatly refreshed by these short excursions; they enabled him to enjoy refreshing sleep when he retired to his beds, for the common bed of humanity would have been useless, and therefore he had two joined together. Equal courage was combined with his strength, and he possessed in the fullest degree the warm temperament of an Irishman. (In another account it is stated that he had rather a large circle of friends and acquaintances.) An impertinent visitor excited his choler one day during his residence here by illiberal allusions to the land of his birth. The Philistine was sensible of the insult, seized the prig by the collar, held him out at arm's length, and gave him three or four mild agitations, something after the manner of Wallace the lion with the famous Billy of rat-killing memory. It taught the 'gemman' to respect his superior. Mr. O'Brien was visited by an immense number of persons, who were astonished at his magnitude and delighted by his manners." (This account refers to his first visit. The narrative goes on to describe Cotter on his second visit, and is exceedingly interesting on that account, as will be shown later.) "It is now upwards of thirty years since he last visited this place. His morning walk was then to some distance beyond King's Thorpe, but what a falling off was there in his pedestrianism! He seemed like a pillar shaken by the wind; his conversation, however, was still instructive and humorous.

"Mr. O'Brien enjoyed his early pipe, and the lamps of the town afforded an easy method of lighting it. When at the door of Mr. Dent in Bridge Street he withdrew the cap of the lamp, whiffed the tobacco into a flame, and stalked away as if no uncommon event had taken place. This gentleman was certainly the greatest friend that ever honoured me by his patronage . . ."

In 1785 Cotter visited London and from St. James's Street issued the following advertisement:—

"No. 30, St. James's Street.

"Mr. O'Brien has the honour to present his respects to the nobility and publick, whose patronage and protection he shall be proud to merit, that notwithstanding the innuendo which has been given out by the infant giants Mr. O'Brien has no art to add to his stupendous height, he is bold to assure them that he stands on his own feet without deception and wears his own hair. He acknowledges he is only 8 feet 3½ inches high, though Brian Boreau, the puissant ancient king of Ireland, was 9 feet high, which he hopes to attain before he is of age, being now between eighteen and nineteen years old. To prevent an improper mixture of company the price of admission from eleven in the forenoon is 2*s.*, from four till seven only 1*s.*"

This advertisement is certainly more florid than truthful. He could have no claim to descent from Brian Boreau, he was certainly older by six or seven years than the advertisement states, and we shall see later that his height was not 8 feet 3½ inches.

The challenge issued to the infant giants is supposed to refer to two brothers named Knipe, who were advertised at nearly 8 feet high, who issued an advertisement in the following high-flown terms:—

IRISH GIANTS.

"The most surprising gigantic twin brothers are just arrived in this metropolis, and to be seen at the Silk-dyer's, No. 2, Spring Gardens, Charing Cross. These wonderful Irish giants are but twenty-four years of age and measure very near 8 feet high. These extraordinary young men have had the honour to be seen by the gentlemen of the Faculty, Royal Society, and admirers of natural curiosity, who allowed them to surpass anything of the same kind ever offered to the public. Their address is singular and pleasing, their persons truly shaped, and proportionate to their height, and affords an agreeable surprise; they excel the famous Maximilian Muller, born in 1674, shown in London in 1733; and the late Swedish giant will scarce admit of a comparison. To enumerate every particular would be too tedious, let it suffice to say that they are beyond what is set forth in ancient or modern history. The ingenious and judicious who have honoured them with their company have bestowed on them the most lavish encomiums, and on their departure have expressed their approbation and satisfaction. In short the sight of them is more than the mind can conceive, the tongue express, or pencil delineate, and stands without parallel in this or any other country.

"Take them for all and all, we shall scarce look on their like again."

"Ladies and gentlemen are respectfully informed that their hours of admittance are from eleven in the morning to three in the afternoon, and from five to eight in the evening, every day, Sundays excepted. Price of admission for ladies and gentlemen, 2*s.* 6*d.*; tradesmen, 1*s.*; servants in livery, 6*d.*"

It is evident that they had nothing to learn in the art of advertising in those days.

To return to Cotter. In July, 1785, he appeared at Sadlers Wells, and is stated to be 8 feet 4 inches in height, and undoubtedly the tallest man ever in this kingdom, with juvenile countenance, and quite pleasing appearance. He is said to be quite able to shake hands with the people in the upper boxes.

In the summer of 1785, Cotter removed from St. James's Street to the Strand, and an advertisement in that year says:—

"The Irish Giant, removed from No. 30, St. James's Street to No. 333, facing Somerset House, Strand. To be seen from eleven in the morning till seven in the evening, Mr. O'Brien of the Kingdom of Ireland, indisputably the tallest man in the kingdom, a lineal descendant of the old puissant King Brian Boreau, and who has in his person and appearance all the similitude of that great and grand potentate. It is remarkable of this family that however various the revolutions in point of fortune or alliance, the lineal descendants thereof have been favoured by Providence with that original size and stature which has been so peculiar to their family. The gentleman is between eighteen and nineteen years of age and measures 8 feet 3½ inches. He is of an athletic make, a great exactness of proportion, high beyond all conception, and is justly allowed to be the greatest wonder of the age. Admittance only 1*s.* each. The nobility and gentry will please to observe that a number of people go about to show themselves as tall men by various arts and deceptions, but Mr. O'Brien assures the public that the tallest man now exhibiting in this kingdom is not higher than his shoulder."

In 1804, Cotter again visited London and made his settlement at No. 11, Haymarket. The terms of the announcement vary but little from the one in 1785, but the height is stated as being "near nine feet."

Caulfield in Kirby's *Wonderful Museum*, 1804, states that when Cotter was at St. Bartholomew's fair about fifteen years previously he often walked about the streets at two or three in the morning, that he was accompanied by two men of ordinary height and seemed to support himself on their shoulders by his hands—as an ordinary man might do on the shoulders of a child of eight to ten years of age. He gives his height as 8 feet 7 inches, states that he is proportionately lusty, and that his hand measures from the commencement of the palm to the end of the middle finger 12 inches, that his face from the chin to the top of the forehead measures the same, that his thumb is about the size of a moderate man's wrist, and that his shoe is 17 inches long; that on the whole he is entitled to be called a well-proportioned man, his limbs not strikingly disproportionate, but that his figure wants that general symmetry which more commonly distinguishes a man of ordinary dimensions.

Another account describes Cotter as moving with difficulty and perhaps with pain.

By far the most interesting and at the same time the most trustworthy account of Cotter appeared in the *Gentleman's Magazine* of 1804 by W. Blair, a surgeon of the Lock Hospital, who saw Cotter on the 5th of May, 1804. He says, "I visited this Irishman at No. 11, Haymarket. He was of very extraordinary stature, but not well formed. As he would not suffer a minute examination of his person it is impossible to give any other than a very slight description of him. He declined the proposal of walking across the room, and I believe was afraid of discovering his extreme imbecility. He had the general aspect of a weak and unreflecting person, with an uncommonly low forehead, for as near as I could ascertain, the space above his eyebrows in a perpendicular line to the top of his head did not exceed 2 inches. He told me his age was thirty-eight and that most of his ancestors by his mother's side were very large persons. The disproportionate size of his hands struck me with surprise, and in this he seemed to make his principal boast. He refused to allow a cast to be made of his hand and said, "It has been done many years ago," but as I have seen that cast at Mr. Bacon's, I am convinced the size is much too small to represent his present state of growth. All his joints were large and perhaps rickety. His legs appeared swollen, misshapen and I thought dropsical. The feet were clumsy and concealed as much as possible by high shoes. His limbs were not very stout, especially his arms, and I judge that he had scarcely got the use of them, for in order to lift up his hand he seemed obliged to swing the whole arm as if he had no power of raising it by the action of the deltoid muscle. He certainly had a greater redundancy of bone than of muscle, and gave me the impression of a huge overgrown, sickly boy, his voice being rather feeble as well as his bodily energies, and his age appearing under what he affirmed. Indeed he gave a different account of himself to different visitors. The state of his pulse agreed with the general appearance of his person, viz., feeble, languid, and slow in its motions. With regard to his actual height I felt anxious to detect the fallacy he held out of being almost 9 feet. Upon extending my arms the utmost I reached his eyebrow with my little finger. Allowing his height to have been 2¼ inches above this it could not have been more in the whole than 7 feet 10 inches; so I am persuaded the common opinion founded on the giant's own tale is greatly exaggerated."

Patrick Cotter died on the 8th September, 1806, at Mardyke in the Hotwells, Bristol, of "disease of the lungs combined with an affection of the liver," and in his last moments was attended by Mr. Plowden. His age was stated as being forty-six.

At his death he was in affluent circumstances. His funeral took place on September 13th. According to the *Bristol Mirror* of that date the leaden coffin in which he was enclosed measured 9 feet 2 inches in length and the wooden case 4 inches more. Its width was 3 feet, his own stature having been 8 feet 1 inch, beyond all question the tallest man of the age.

It is estimated that at least 2,000 people attended his funeral, and no hearse could be found big enough to hold him, so that the projecting coffin had to be covered with black cloth. He was buried near the stairs in the Romish Chapel in

Trenchard Street; the grave was cut 12 feet deep in the rock, and such precautions taken as would render abortive either force or stratagem. We could have wished that he had voluntarily submitted his body to the investigation of some able anatomist, and that so unrivalled a specimen of gigantic stature had afterwards been deposited either in the Bristol Infirmary or the British Museum for the promotion of science, but it is not for one man to judge the feelings of another. Therefore *Requiescat in pace.*

In the same Journal there appeared in October the following advertisement:—

THE IRISH GIANT.

J. WILDS

"Respectfully informs the friends in this city of the late Patrick O'Brien, Esq., and the public generally, that being in possession of a most capital likeness in wax and the principal part of his wardrobe, he is enabled to gratify them with the view of a perfect wax model of his person, which will be exhibited on Monday the 3rd in a commodious apartment at Mr. Knight's stocking manufactory, Corn Street, near the Council House, from 10 to 2 o'clock, previous to its removal to Bath and London.

"Mr. O'Brien has been seen by so many persons previous to his retirement into private life, who will find this exhibition particularly interesting, that little need be said here to convince those who may not have had that pleasure that they are now offered an opportunity of contemplating a faithful copy of one of the most wonderful phenomena of nature."

As to the subsequent history of this wax model I know nothing.

RELICS OF COTTER.

At the Bristol Royal Infirmary there are preserved in the Museum:—

1. A cast of his hand evidently taken shortly before death.
2. A silk stocking.
3. A shoe.

At the Bristol Museum there are preserved:—

1. A cast of the hand by a pupil of Mr. Bacon (the one alluded to by W. Blair in the *Gentleman's Magazine*).
2. A silk stocking.
3. A shoe with last.
4. A lock of hair.
5. A pair of spectacles with case.
6. A walking stick.
7. A chair.
8. A portrait with legend.

His watch was bought at a sale of his effects for seventy guineas; it weighed one pound, but I do not know if it be in existence now.

From what has been said it is evident we are in possession of a very complete account of Cotter during life; now let us see what can be gleaned from an examination of his remains made almost exactly 100 years after his death, an examination which I was able to make whilst alterations were being made to the chapel in which he was interred. (March 3rd, 1906.)

I was called in too late to see the remains undisturbed in the coffin, which I should very much have liked to have done, but I was able to make careful measurements of all the more important bones, and to obtain several photographs.

The body had evidently been enclosed in three coffins, an outer of wood, a middle of lead and an inner of wood. The coffin plate was well preserved, and bore the following inscription:—

PATRICK COTTER O'BRIEN
of
Kinsale, Ireland,
whose stature was 8 feet 4 inches.
Died September 8th, 1806.
Aged 46 years.

This inscription is especially interesting as showing how little figures can be trusted, as all accounts of the coffin plate give the stature as 8 feet 1 inch.

The lead coffin was much distorted by the attempts to open it by the workmen, and at the top may have measured 9 feet 2 inches, as stated in many accounts, but a manuscript note on the portrait at the Bristol Museum gives the maker's name, and says the length is 9 feet 5 inches. Whatever the exact length may have been, it certainly looked enormous, more like a rowing boat than a coffin.

In the coffin were the bones, the remains of clothing and a woollen pillow in very fair condition. The hair was also well preserved. At the bottom of the coffin was a semiliquid mass about one inch in depth, of a reddish colour, in which I found the bones of the hand embedded; for the most part the skeleton was in very good condition, the bones of the hand were perfect, those of the foot were much decayed. The metatarsals, however, were in good condition as were all the long bones of the body.

The articular surfaces of the longer long bones were much diseased by arthritis, the neck of the right femur showed an impacted intra-capsular fracture, and the head was almost anchylosed to the acetabulum. Large osteophytes abounded near the articular surfaces of many of the long bones, confirming the opinion given by W. Blair, and previously quoted. In fact so much were these bones diseased that walking must have been a matter of considerable difficulty. The skull was in good condition and was specially remarkable for the enormous development of the face. The supra-temporal crest was markedly festooned at the coronal suture, and although I was not allowed to open it, it was quite easy to feel from the foramen magnum that the pituitary fossa of the skull was enormously enlarged.

MEASUREMENTS OF THE BONES.

The Skull.

Length, Glabello-inial		223mm.
Width		170
Ophryal		108
Stephanic		109
Zygomatic		159
Asterial		145
Height, Basio-bregmatic		134
Circumference		635
The Orbit:—		
Width	R. 51	L. 50
Height	R. 41	L. 46
Pyriform aperture:—		
Height		46
Greatest height		52
Height from nasion to subnasal point		71
Greatest height		74
Facial length:—		
Nasion to alveolar point		101
Nasion to bottom of symphysis		170
Mandible:—		
Angle to centre of bottom of symphysis		116
Condyle		167
Depth of symphysis		47

The lower jaw was remarkable for the great depth and forward projection of the symphysial region.

Vertebral Column.

All the vertebræ with the exception of the sacral were in fair condition and the lumbar column measured in height when articulated 170mm. The 3rd lumbar vertebra measured 76mm. in width.

The sacrum measured 140mm. in width at the base.

The limb bones.

Upper limb:—		
Scapula.		
Width from tip of acromion to vertebral border	R. 210	L. 210
Length		L. 260

Glenoid cavity height	R. 53	L. 50mm.
Suprascapular notch depth	R. 20	L. 16

Coracoids relatively very small.

Clavicles:—

Length	L. 220

The curves were well marked, the groove for the sub-clavius deep, and the rhomboid impression well developed.

Humeri.

The head in both markedly arthritic, tuberosities small and the deltoid impression well marked. Bicipital groove well marked in both.

Length	R. 477	L. 465mm.
Width:—		
Upper end	R. 70	L. 67
Lower end	R. 90	L. 90
Circumference:—		
Centre of shaft	R. 110	L. 110

Coronoid fossa much larger in right than left.

Radii.

Length	R. 370	L. 374
Circumference	R. 65	L. 65

Ulnæ.

Length	R. 410	L. 400
Circumference	R. 80	L. 72

The Hand.

Left hand in perfect condition.

Semilunar, depth	25
Magnum	40
3rd Metac.	100
1st Phal.	70
2nd „	45
3rd „	25
	305

The cast of the hand at the Infirmary measured 310mm. from the wrist to the tip of the third digit. That by Mr. Bacon alluded to by W. Blair measured 275mm.

Lower Limb.

OSSA INNOMINATA.

These were much decayed and very extensively diseased at the acetabula, the right acetabulum being practically anchylosed to the head of the corresponding femur.

Height		L. 313mm.
Length between ant. and post. sup. iliac spines	R. 210	L. 200
Acetabulum :—		
Width	R. 70	L. 76
Depth	R. 30	L. 67

Femora.

The neck of the right femur showed an impacted fracture, both femora were markedly pilastered. The internal condyles projected very much downwards as in knock-knee.

The head and condyles arthritic.

Oblique length	R. 658	L. 650mm.

Tibiæ.

Length	R. 595	L. 585
Circumference :—		
Head	R. 150	L. 130
Middle of shaft :—		
Lower third	R. 145	L. 150

Fibulæ.

Length	R. 540	L. 550
Circumference at junction of middle and lower thirds of shaft	R. 80	L. 85

Foot.

Bones much decayed.

Astragalus	R. 84
1st Metatarsal	R. 90
1st Phalanx	R. 40
2nd „	R. 30

Note to tibiæ.—Both were markedly concave forward in the upper half of the shaft.

The foot was relatively short as compared with the hand, in fact the cast of the hand measured 12 inches in length, whilst the shoe (sole) measured 15 inches not 17 as stated by Caulfield.

Having now the facts before us as told by the skeleton we are in a position to form some opinion as to the real height of Patrick Cotter. Apparently it is the universal experience of those who have interested themselves in the subject, that the advertised heights cannot be trusted. Prof. Cunningham remarks, "with regard to the stature of giants in general the statements made in earlier records are altogether unreliable. No height, no matter how great or how ridiculous, was considered impossible, and even at the present time the utmost caution requires to be exercised before accepting as accurate the measurements of men who present unusually great stature." Advertised heights of giants on exhibition are always exaggerated and, according to Dana, it is always a safe rule to deduct five or six inches from all of these. A good example of the unreliability of statements regarding height was in the case of Winkelmeyer, whose height was advertised as 8 feet 6½ inches. Virchow, however, had the opportunity of measuring Winkelmeyer, and found that he was only 7 feet 5⅝ inches. Magrath too, who was carefully studied by Professor Cunningham, was stated to have been 8 feet 6 inches, 8 feet 5 inches, 7 feet 9 inches, whilst Dr. Bianchi, who carefully measured him during life, found that he was 7 feet 5 inches.

The ordinary evidence concerning Cotter is sufficiently conflicting, thus:—

In 1804	... ...	9 ft.	nearly.	(Newspaper puff.)
1786	... ...	8 „	7¾ in.	(Northampton barber.)
1804	... ...	8 „	7 „	(Caulfield.)
1785	... ...	8 „	4 „	(Cotter's advertisement.)
1785	... ...	8 „	3½ „	(„ „)
1806	... ...	8 „	4 „	(Coffin plate.)

In all contemporary accounts of the funeral the coffin plate is stated to have given 8 feet 1 inches, and the memorial tablet in the chapel states the height as 8 feet 3½ inches. We may well say with Pilate, "What is truth?"

Then too we are led to believe that Cotter was a man of athletic build and of good proportions by many accounts. It is obvious that whatever he may have been in his youth he cannot lay claim to have been of an athletic build in his later years, but must have suffered a good deal, and all movements must have been accomplished by him with great difficulty. With regard to his real height, we are certainly confronted with difficulties. As Professor Karl Pearson justly says, the data upon which we can found calculations are so scanty that no definite rule can be formulated.

Then, again, in Cotter's case the tibiæ were so enormously long that any calculation made in the ordinary way from the femur would throw one hopelessly out.

Not being a mathematician myself I wrote to Professor Karl Pearson to give me an idea as to the height of Cotter from figures supplied, and this is what he says:—

"Enclosed are the estimates formed on the curves given in my memoir. I have not calculated stature from fibula and ulna, as these bones are so rarely preserved in prehistoric material which I had chiefly in view.

" You will see that the left bones, although individually differing a good deal from the right, give the same mean value, 7 feet 9 inches.

" The tibia is relatively exaggerated ; I believe that measured without boots the giant is not likely to have exceeded 7 feet 10 inches or so at his best. But with his boots on for advertisement purposes, I have no doubt he was called 8 feet. The best authenticated measurements on living giants always show a considerable margin on the reputed height. Still, allowing for all this, your 236 cm. is only equalled by the Paris giant, and his femur and tibia were less than those of the Bristol case. The Paris giant, however, as given by Humphry is, I believe, only an estimate from the mounted skeleton, and I believe it to be certainly exaggerated. I think you might safely say not less than 7 feet 9 inches and possibly 7 feet 10 inches at his best."

Professor Pearson adds that Flower's method would make Cotter's height as calculated from the femur as 7 feet 10 inches and as judged from the tibia as 8 feet 3 inches. But he expresses the opinion that Flower's method greatly exaggerates for statures over 7 feet 6 inches.

The following is the table of estimates by Pearson :—

From	R. Femur	S. 230·4	cm. =	7	feet	6·71	inches.
	R. Tibia	S. 244·0	„	8	„	0·06	„
	R. Humerus	S. 235·0	„	7	„	8·52	„
	R. Radius	S. 236·3	„	7	„	9·03	„
From	L. Femur	S. 230·4	„	7	„	6·71	„
	L. Tibia	S. 242·2	„	7	„	11·36	„
	L. Humerus	S. 233·5	„	7	„	7·93	„
	L. Radius	S. 239·0	„	7	„	10·10	„
Average of four estimates from—							
	R. bones	S. 236·42	„	7	„	9·08	„
	L. „	S. 236·28	„	7	„	9·03	„
Average of eight estimates from—							
	R. and L. bones	S. 236·35	„	7	„	9·06	„

Dr. Beddoe writes that he calculates the height from Manouvrier's tables at 7 feet 10·85 inches. By his own method, calculating from the femur alone, the height is only 7 feet 5·6 inches, but he says that the distal bones are often longer in giants proportionately than the proximal, as in Cotter's case, consequently he prefers in such a case Manouvrier's yield.

The results of these calculations are exceedingly interesting, because they confirm in a quite remarkable manner the observation of W. Blair to the effect that he could not have been more than 7 feet 10 inches in height, allowing 2¼ inches for the height of his forehead. (As a matter of fact, the actual height of the cranium above a horizontal line drawn through the glabella was 2⅘ inches.) W. Blair then was exceedingly accurate in his estimate of the forehead and it may be taken that his estimate of the length of the body below the forehead was substantially accurate. Personally I am content to accept the height of Cotter as being about 7 feet 10 inches at the time when he was on show.

That being the case, Dana's observation with regard to the deduction of 5 or 6 inches from the advertised height of all giants is confirmed. Still it is possible that Cotter's claim that he was the tallest man of the age was correct, and so far as measured bones afford information as to height, Cotter seems to hold the record.

We may now ask ourselves what was the cause of Cotter's height? I think that there can be no doubt that he suffered from acromegaly.

a. Because he showed the characteristic enlargement of his facial region.

b. Because of the marked festooning of the supra-temporal crest (Dixon).

c. Because of the enormous pituitary fossa.

d. Because, if the evidence of the casts of the hand may be taken as valid, the hands became progressively enlarged.

My acknowledgments are due to many for help and information; much of the history has been taken from Wood's *Giants and Dwarfs*, from *Notes and Queries*, from the *Globe*, the *Bristol Mirror*, *Farley's Journal*, etc.

To Professor Pearson, Dr. Beddoe, Mr. Bolton of the Bristol Museum, and Mr. Bevan, who kindly took the photographs, my thanks are due, and to Mr. Telling of the Bristol Reference Library, who kindly looked up all the literature, I am exceedingly grateful.

TABLE OF GIANTS. (Karl Pearson.)

Name.	Locus.	Stature.	F.	T.	H.	R.
Joachim	Musée Broca	210·0	56·72	47·0	40·4	30·5
Berlin Giant I ...	Berlin Museum	223·0	64·0	53·0	45·5	30·5
Berlin Giant II ...	... ...	216·0	55·0	48·0	38·0	29·0
O'Byrne	R.C.S. Museum, Lond. ...	231·0	62·5	54·1	45·0	33·4
American Giant ...	... ...	213·0	58·5	47·8	41·3	30·0
Magrath	Trinity College, Dublin ...	226·0	62·4	50·6	43·3	33·8
"Krainer" ...	Josephinum, Vienna ...	203·3	53·4	43·5	39·5	27·5
"Grenadier" ...	... ...	208·7	55·5	45·6	40·5	29·0
Innsbruck Giant...	Innsbruck	222·6	61·5	52·0	44·6	34·3
St. Petersburg ...	Petersburg	219·5	56·5	50·0	46·0	33·5
"Wichsmacher" ...	Vienna	202·3	52·4	44·9	39·4	27·8
Paris Giant ...	Musée Orfila	236·2	60·96	55·9	—	—
Patrick Cotter ...	Bristol	236·35	*65·4	59·5	47·6	37·2

* Average of two sides.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate XV.*

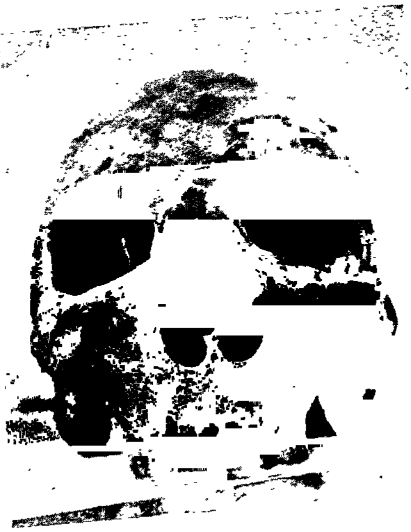


FIG. 1.—SKULL ; NORMA FACIALIS (WITHOUT JAW).

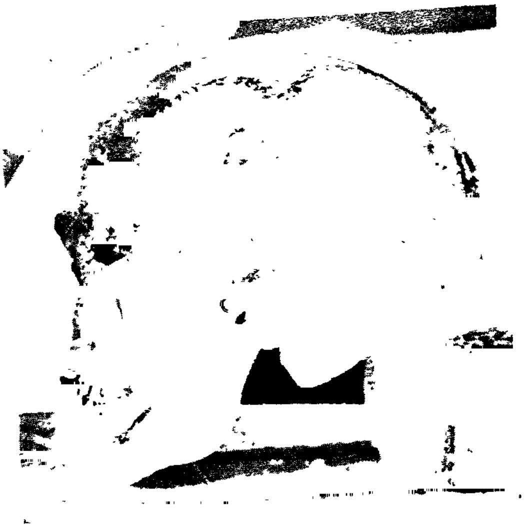


FIG. 2.—SKULL ; NORMA LATERALIS.

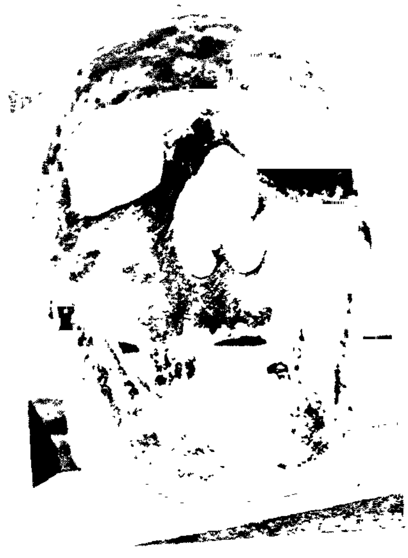
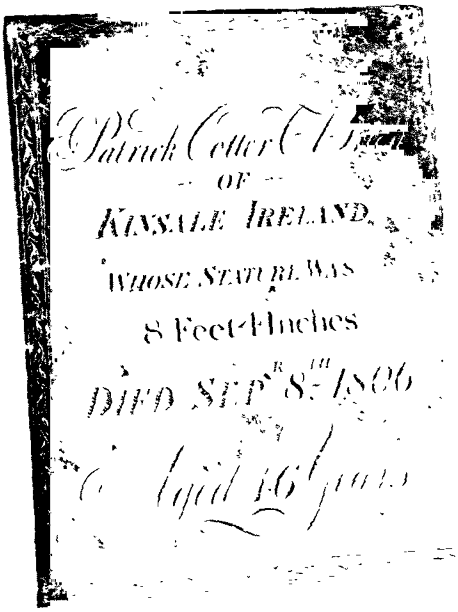


FIG. 3.—SKULL ; NORMA FACIALIS (WITH JAW).



Mr Patrick Cotter O'B[illegible]
OF
KINSALE IRELAND,
WHOSE STATURE WAS
8 Feet 4 Inches
DIED SEPR 8TH 1806
Aged 46 years

FIG. 4.—COTTER'S COFFIN PLATE

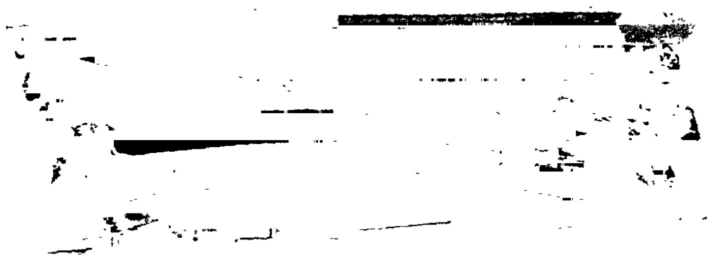


FIG. 5.—FEMORA.

PATRICK COTTER—THE BRISTOL GIANT.

SOME NOTES ON *NSIBIDI.*

BY THE REV. J. K. MACGREGOR, B.D.

Nsibidi is the native name for a writing used a little here in the Calabar District of the Eastern province of Southern Nigeria, but much more largely up the Cross River and inland from it on both banks. So far as I have been able to ascertain, it is unknown in the Central and Western Provinces exceps amongst the Ibo people. If the Bini and the Yoruba have a writing, and I feel certain that they have, it seems to be different from *nsibidi.* This originated amongst the great Ibo tribe which is said to number 4,000,000 people and to cover about one-third of the Protectorate. They are a great artisan tribe, and their smiths are to be met in every village in this part of the country, and wherever a smith goes he carries with him the knowledge of *nsibidi.* The system of writing is really the property of a secret society, the *nsibidi* society, into which men are regularly initiated after undergoing a period of preparation. Some of the signs of the *nsibidi* are known to outsiders, but the vast majority are known only to the initiated. To the uninitiated they are mysterious and therefore magical, capable of doing harm because of the "medicine" that may have been used in making them. I have tried to find out from fellow-missionaries of other Societies in various parts of Kamerun whether it is known to the people there. They are unaware of its existence there, and as the tribes in Kamerun seem to have a Bantu connexion, it is quite probable that it does not exist. The Rev. Melvin Fraser, of the American Presbyterian Mission, assures me that it is quite unknown amongst the Bulu and Fang peoples amongst whom that Society works. Indeed the only other script that I have heard of is the famous one of King Nyoga.[1] That the existence of a script is unknown to Europeans must not, however, be taken as conclusive evidence that the script does not exist, for the natives have a strange but natural desire to hide as much as they can from the prying eyes of the European who has too often but learned what they held precious only to scoff at them.

For long it was not suspected that there was a native script in use in Calabar, as I shall for convenience call the whole of the part of the country in which *nsibidi* is known. The early missionaries maintained that they had no knowledge of writing. They knew the word *nsibidi*[2] and applied it correctly enough to the cuts made on calabashes, native pianos, etc, unaware that many of these signs had significance. Again they were aware that there was an elaborate system of acted signs by which people held communication, but they had not discovered that this language of signs had been reduced to writing. The discovery of *nsibidi* was made by T. D. Maxwell, Esq., whilst acting as District Commissioner in Calabar in 1904. By his evident desire to understand native modes of thought and by his tact, he won to a large degree the goodwill of the people. Accordingly when he was asked by His Excellency the High Commissioner to superintend the arrangements for an exhibition of native goods, he was able to include in it twenty-four *nsbidi* signs that he had received from one of the chief women of the Henshaw family. These were published by command of the High Commissioner in the Government Civil List for the Protectorate in July, 1905. Mr. Maxwell has very kindly given me permission to use these signs.

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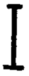
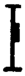
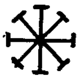
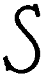
[1] In Mausfeld's *Urwald-Dokumente* (Berlin, October, 1908), which I have only just seen, is some reference to this writing. There are two plates of signs (Tafel IV, V, Verzierungen der Kalabassen), but the reference in the text is slight (*cf.* also Abbildung 29). Dr. Mausfeld found this writing amongst the Eksi people who live north-east of Calabar, both in British and German territory.

[2] Mr. Goldie in his great Dictionary of the Efik language derives *nsibidi* from an Efik verb "*sibi,*" to cut. "*Sibi,*" however, means to slice and not to make the cuts referred to.

Meanwhile in complete ignorance of Mr. Maxwell's find, I had stumbled by accident on the fact that *nsibidi* existed. In a class I was teaching, a pupil deeply resented the statement that the civilisation of the people in Nigeria was primitive because they had no writing. He declared that they had a writing called *nsibidi.* This happened in April, 1905. As I was at the beginning of a new term, I set myself to find out all I could about *nsibidi.* People smiled when I asked for information and declared that they knew nothing about it. The reason for this is that in Efik *nsibidi* is used almost only to express love, and this term covers such a multitude of most abominable sins that no self-respecting Efik person will confess that he knows anything about the writing of it. The few specimens I got were grossly misinterpreted to me so as to tone down their meaning. Still from them it was possible to see that here we have a genuine product of the native civilisation the origin of which is so old as to have become the subject of a *Märchen.* It does not show any trace of Egyptian influence. For one thing, by 4000 B.C. the Egyptian script had already begun to develop an alphabet, and had *nsibidi* been influenced by Egyptian hieroglyphics there would surely have been some traces of an alphabet in it. So far I have found none. I do not think that there has been any development towards an alphabet, nor, had it been left to itself, would there ever have been any such development.

The signs have been gathered by me from various sources, especially from two boys from Abiriba called Onuaha and Ize Ikpe, and from a woman who one day came to my house selling work with *nsibidi* on it, and when I began to tell her what it meant she told me what I could not make out and then offered to teach me more. Her mother, she said, had had a school for the teaching of this script. It was from the Abiriba boys that I obtained the story of the first *nsibidi* which I give below. In as many cases as possible I have checked the interpretation of signs by bringing them to several people, but this has only been the case with a very few. Where so few people will own to a knowledge of *nsibidi* to obtain and to check are equally difficult. Owing to this practical impossibility of verification I give the meanings with all due reserve. It is but fair to state that all the interpretations given by Onuaha and Ize Ikpe that I have been able to check have been supported by the natives to whom they were submitted, and every one of those I send has been scrutinised by them. Even from the limited number of signs which I have collected several things are noticeable.

1. The same sign stands for different things, *e.g.*, the sign  may be "a man" who is an onlooker or a messenger, "a pillow," "a tree" that supports the roof of a house, or "the house" itself. Sometimes, as in the last of these cases, this multiplication of meaning is easily explained, *e.g.*,  is "a whip," "a man with a whip," and also "a runner in an Ekpe play," because they carried whips. It is of course used in this last sense only when the Ekpe sign  is written with it or attached to the figure-group in which it occurs.
2. The same thing is expressed by different signs. In this case there is always a subtle shade of meaning in the difference. This is most noteworthy in the case of signs representing men. Many separate acts or states of mind are thus represented.
3. There is no order of writing. A sign may be horizontal or vertical or oblique as suits the convenience of the writer. The consequence of this is that all the signs in a collection have to be interpreted before the meaning is plain.

How did this script originate? It is evidently a picture-writing of considerable age, for already there is a certain amount of conventionality about some of the signs, *e.g.*  which means a man who makes trouble between two people. The native tradition of its origin is that it comes from the Uguakima section of the Ibo tribe. The Uguakima dwell between Ikorana on the Cross River and Uwet on the Calabar River, and seem to be the people known amongst the Efik people as the Uyanga. By them it was taught to the people round about. The way in which the Uguakima say that they learned *nsibidi* is this. In the forests of their country live many large baboons called *idiok.* If a man is staying in the bush all night and makes a big fire to warm himself or to frighten away wild animals, the *idiok* will come down from the trees and sit round the fire just like men. When the *idiok* did this, all men were frightened and ran away, but the Uguakima were not frightened. Thus there sprang up a friendship between the *idiok* and the Uguakima. After a time the *idiok* began to write signs on the ground which the Uguakima did not understand. At last it was seen that when an *idiok* traced a sign on the ground and then acted in pantomime, the sign on the ground meant the act performed. These signs the Uguakima called *nsibidi* which is derived from an Ibo word *sibidi*, meaning to play, for they had learned these things through the playing of the *idiok.*[1] To the signs thus learned from the *idiok* many pictures of common objects have been added, *e.g.*, those for comb, calabash of money, etc. Besides *nsibidi*, the Uguakima also learned from the *idiok* much medicine, so that they are the wisest witchdoctors in the country.

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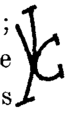
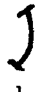
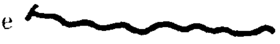
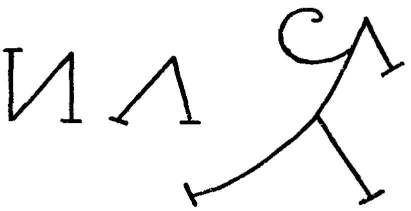
[1] "To play" in the native use has a much wider meaning than in English. It stands for all the shades of meaning from sport to drama. Because the dramas, as we may call the native dances, are religious, it has also the sense of to bewitch. Because the beat of the heart is regular as the beat of a drum, it is also applied to the beating of the heart.

The use of *nsibidi* is that of ordinary writing. I have in my possession a copy of the record of a court case from a town on the Enion Creek taken down in it, and every detail, except the evidence, is most graphically described,—the parties in the case, the witnesses, the dilemma of the chief who tried it, his sending out messengers to call other chiefs to help him, the finding of the court and the joy of the successful litigants and of their friends are all told by the use of a few strokes. It is also employed for purposes of communication. I have not actually seen an *nsibidi* letter. One which came into my possession as such turned out on examination to be merely a number of signs with no intelligible connection, but from what I have seen of it I see no reason to doubt the very common statement that it is used for this purpose. A wide-spread use is to give public notice or private warning of anything,—to forbid people to go on a certain road, an *nsibidi* sign, far more powerful than any constable, is made on the ground: to warn a friend that he is to be seized, the sign of a rope is chalked where he cannot fail to see it, and he at once flees: to convey the wishes of a chief to all who may come to visit him, signs are set on the walls of his house. At first I thought there could be no old records of *nsibidi*. All the signs that I have seen have been made on the ground, or in chalk, on the walls of houses, or burned on calabashes, etc., as an ornament. Some time ago, however, the woman to whom I referred above as one of my informants told me that her grandmother had sewn many signs on cloth and these her mother taught in her school. This cloth she would not on any account let me see as she said it was too frail, but she made a copy of it for me on paper and gave me the copy with the interpretation. The signs, except in rare instances, are not connected with each other, and the whole was more of the nature of an aid to memory for the teacher than a record of anything. The age of this cloth must be at least sixty years and it is the oldest specimen of *nsibidi* of which I have heard.

As regards the nature of the writing, it is pictographic pure and simple. Is a man a stranger who has no place in a town, then he is represented as standing on only one foot. Does he hold up his hand in the air to make signs, then five lines representing his five fingers are drawn. Is money referred to, then a picture of native rods is drawn. Only once have I had a sign interpreted by an abstract term;  was said to mean "a bad habit," but the rarity of the abstract idea in native thought made me suspicious, and now I learn that it means a man who has a bad habit, any bad habit, which he practises.

So far I have discovered the signs for very few animals. The sign  for the *idiok* is the same as one of the signs for a man. The sign for the snake  aptly illustrates the native name for the snake, *nruk-iket*, *i.e.*, literally the bush-rope. I include in my lists the signs for the butterfly, the leopard-spider, the snail and the fish-hawk. It is more than probable that there are signs for most of the common animals, though I have not yet come across them.

Already the effect of Europe is being felt on *nsibidi,* and it is urgent that as speedily as possible the collection of the signs should be completed. It came as a painful surprise to me one day when Onuaha brought me this sign and told me that a boy of his own name had given him it that day (I was in Umon at the time) and said that it was the *nsibidi* for Onuaha. The first two signs are corruptions of the English capital letters N and A whilst the third sign is distinctly reminiscent of more than one *nsibidi* character.[1]



Description of Figures 1–98.

Marriage and Home Life. (Figs. 1–2*a*.)

1 and 2. Married love (2, with pillow).
3. Married love with pillows for head and feet—a sign of wealth.
4. Married love with pillow.
5. Quarrel between husband and wife. This is indicated by the pillow being between them. (Mr. Maxwell.)
6. Violent quarrel between husband and wife. (Mr. Maxwell.)
7. One who causes a disturbance between husband and wife. (Mr. Maxwell.)
8. A woman with six children and her husband ; a pillow is between them.
9. Two wives with their children (*a*), of one man (*b*), with the roof-tree of the house in which they live (*c*). The tree is put for the whole house.
10. A house (*a*) in which are three women and a man. The dots have no meaning.
11. Two women with many children in the house with their husband.
12. Two women on each side of a house. One on each side has a child.
13. A woman with child. (General sign.)
14. The same. If a man writes this sign on the ground, it means that his own wife is with child.
15. Palaver, the general term, by no means confined to marriage palavers.
16. A woman who does not want her husband any more.
17. A woman who wishes to put away her husband.
17a. Mr. Maxwell gives this sign = embracing. I have not been able to get his interpretation corroborated.
18. A harlot.
19. Two women who live in the same house have palaver every time they meet. A third woman is entering by the door.
20. A man (*a*) who comes to a woman who has a husband and asks her to live with him.

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[1] Since writing the above I have had handed to me a paper with several new *nsibidi* signs and headed "*Nsipbri Obiaebe.*" *Nsipbri* is simply a form of *nsibidi*, but Obia = "a practiser." The phrase thus means "the play of the practisers of Ebe"—Ebe is one of the names given to the people who live in the north of Uwet whom I have called Uguakima in the course of my paper.

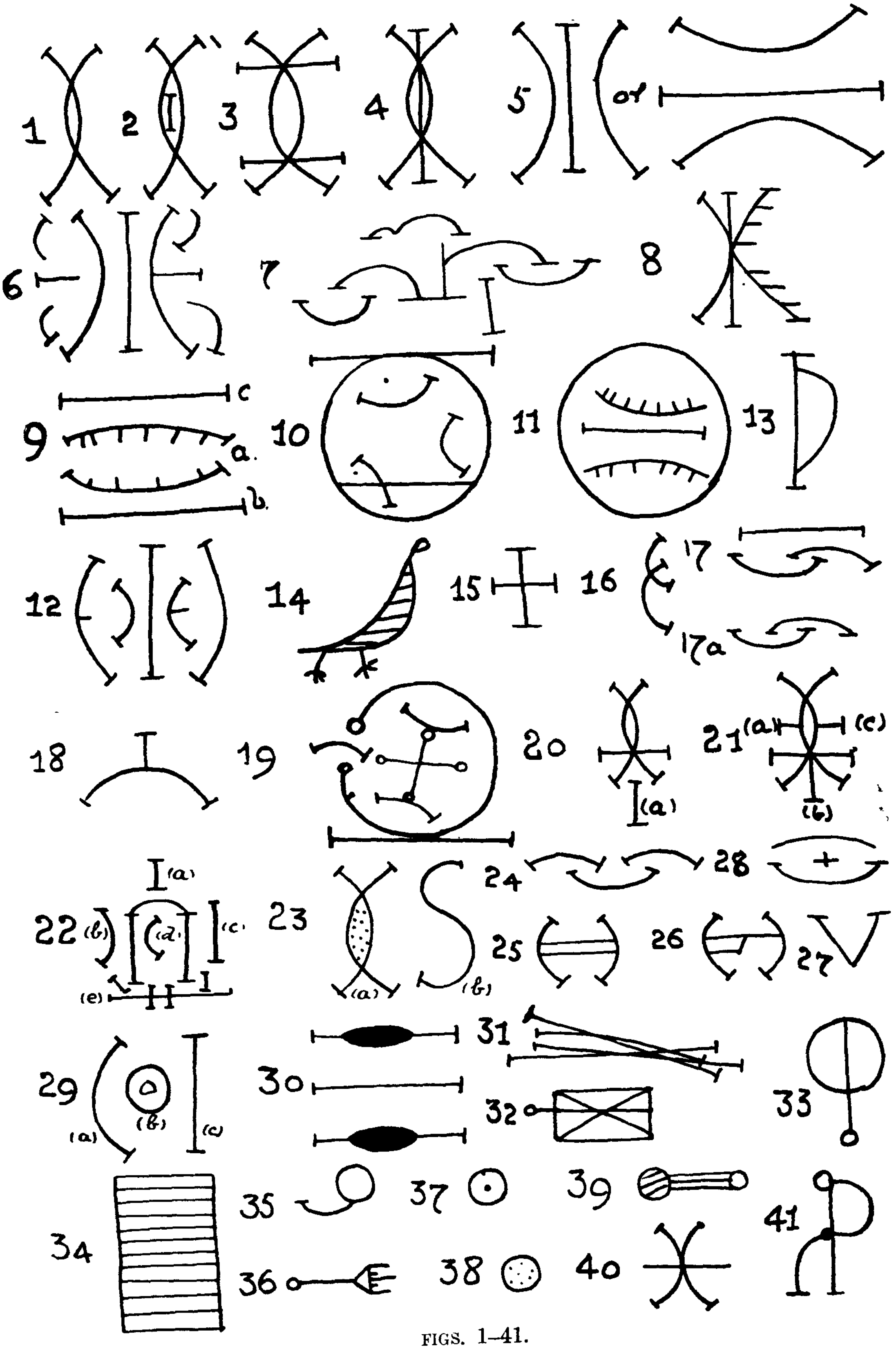
21. (*a*), (*b*), and (*c*) are three men who sought the same married woman, and quarrelled because of her. (I do not see anything in the written sign to indicate that they quarrelled. On the other hand, if the palaver sign were there, it would mean simply that trouble came of it, without indicating what that trouble was.)
22. (*a*) is a man who committed adultery with a woman (*b*), who now lives apart from her husband (*c*). According to native law, the guilty man has to pay compensation for what he has done to the woman's family and to (*b*) her husband. (*d*) is the money paid, the curved sign inside showing that it was paid on account of a woman. (*e*) are the parties to whom the money was paid.
23. A man and a woman were "friends." The man wished to leave her, but she would not agree. One day when she was at the farm he wrote this sign all over the house, and took his departure. (*a*) means that he curses her, saying that she has "craw-craw." (*b*) means that he has gone to another town.
24. Love without agreement. (Mr. Maxwell.)
25. Heart with true love. (Mr. Maxwell.)
26. Heart without true love. (Mr. Maxwell.)
27. Inconstant heart. (Mr. Maxwell.)
28. Two persons agree in love.
29. In war it is a common practice for the enemies of a town to hide near the place where the women bathe, and shoot them. It is a great disgrace for a man to lose his wife in this way, and men "curse" him by writing this sign on the ground, or by saying, "Where were you when you killed your wife?" (*a*) is a woman who goes to bathe in the river at a ford (*b*), while her husband (*c*) watches to see that no one shoots her.

Common Articles of the House. (Figs. 30–44.)

30. Juju hung over a door or on the road to a house to keep danger—especially evil spirits—from the house. Sacrifices of fowls and goats are offered to it.
31. Firewood.
32, 33. Looking glasses. (Also used for a man with a looking glass.) (Mr. Maxwell.)
34. A native mat, used as a bed.
35. A gourd for a drinking cup.
36. Native comb. (Mr. Maxwell.)
37. Toilet soap. (Mr. Maxwell.)
38. Basin and water. (Mr. Maxwell.)
39. Calabash with 400 *chittims* inside it. A *chittim* is a copper wire worth one-twentieth of a rod. Such calabashes have hinges of three strings. (Mr. Maxwell.)
40. Slaves.
41. Fire.
42. A house on fire. Two people are inside. A man outside has a rope to draw them out.
43. Disturbance. (Mr. Maxwell.)
44. A man who has many children in his house thinks that he has more children than anyone else in the town. He writes this sign as a challenge to other men. It means that he will tie with a rope (*a*) anyone who says he has more children than he. The double sign for palaver shows that he will make a big affair of it.

Public Life in Town. (Figs. 45–74.)

45. Sitting stick with men on it.
46. The same, with a messenger speaking to men. (Mr. Maxwell.)
47. A society with their fighting staff. (Mr. Maxwell.)
48. Trading. (? forked roads with a rod—native money—over them.)
49. A man with his wrists tied.
50. (*a*) is a man who is to be sold as a slave, and whose hands are tied in front. (*b*) is the person taking him to the slave market.


or
c
a.
b.
(a)
(a)
(c)
(b)
I (a)
(b)
(d)
(c)
(e)
(a)
(b)
(a)
(b)
(c)

FIGS. 1–41.

51. (*a*) = slaves; (*b*) = free born. To write this before a man means that you are free born and he is a slave.
52. Two persons fixed to a post by leg-irons. (Mr. Maxwell.)
53. A man locked in prison.
54. "Plenty" money, *i.e.*, native rods.
55. (*a*) is a man praising his country. (*b*) is the praise he gives.
56. (*a*) begged something from (*b*), who agreed to give it, but afterwards drew back his hand. (*c*) is a bystander who saw the whole affair.

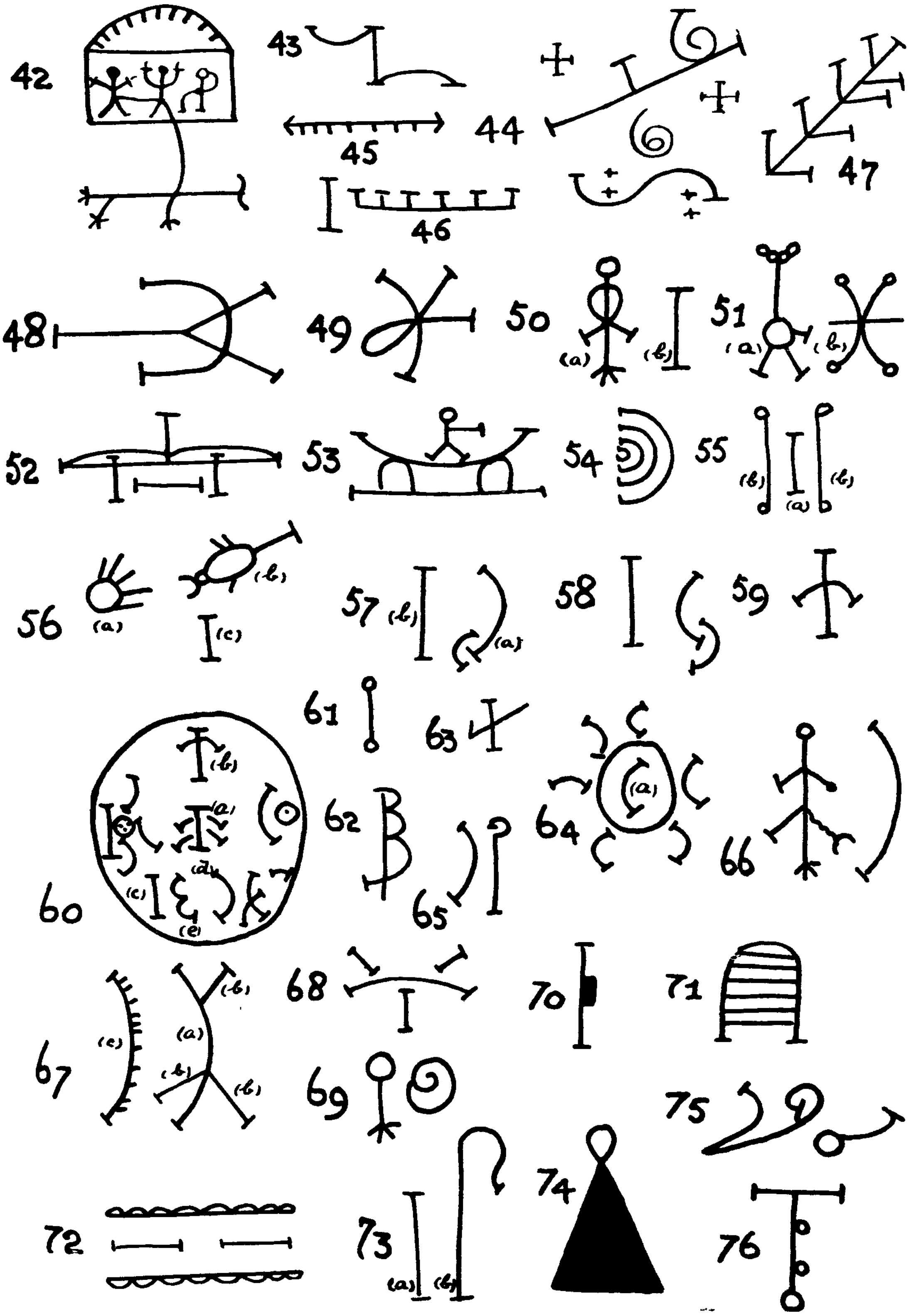
57–60 are parts of a story.

57. (*a*) is a beggar who borrows some money (*b*).
58. He receives something, and turns to go.
59. He goes along the road carrying the rod (native money = 3*d.*) which he has received.
60. He comes to the market. (*a*) is the noise of the people as they buy and sell. (*b*) is the hero of this tale. (*c*) is the hero again. He has come to a woman (*d*), and is bargaining with her. She will not agree to his prices, and "curses him a thief" (*e*).

61. A javelin.
62. A man holding a shield.
63. A man on the look out for a message. (Mr. Maxwell.)
64. (*a*) had all these people—"brothers and sisters"—who work for him and will not allow him to do anything. He lives happy till they all die. When they are dead, one of his companions comes to laugh at him and so (*a*) writes this sign on the ground. It means, "I am lonely and must not be mocked."
65. A solitary man.
66. A man who stands by himself and has no friends.
67. (*a*) is a man who is without companions, (*b*) are three men who curse him, (*c*) means that he shows them he had many slaves who are now dead. Had they been alive (*b*) would not have dared to curse him so.
68. A sick man who is being visited by three friends.
69. "If your friend is in trouble and you hear that they are coming with a rope to tie him, make this sign on the ground and even though you do not speak a word he will know how to escape." (Literal translation.)
70. A whip, also a man who has a whip. When placed with the *ekpe* sign = an *egbo* or *ekpe* runner.
71. A door.
72. Main road with two persons on it. (Mr. Maxwell.)
73. (*a*) is a chief of Abariba. When he is installed in office, he is given a stick of office, (*b*) which is tied with iron. It is strange that in cases where a man—always an old man—and his stick are represented, the stick is uniformly much bigger than the man. In actual life it is usually long enough to come up to his shoulder.
74. A "tiger-leather" is the usual native name for a leopard's skin. When a man possesses one, he is considered a real big man!

SICKNESSES. (Figs. 75–86.)

75. Dysentery.
76. Elephantiasis.
77. Wound with a plaster of herbs on it.
78. A man who has been drowned.
79. Another sign for the same.
80. Small-pox.
81. A man (*a*) with a wound or ulcer (*b*) on his leg. (*c*) comes to dress it, but when he sees its size and nature he hides his face. (*d*) is a calabash of water brought to wash the wound.
82. Leprosy. It represents a stick held by two hands. Among the Uguakima a man who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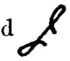
FIGS. 42–76.

never takes off his clothes and never goes naked will be stopped by the people who hold their sticks so and move their hands up and down the stick—now the right hand above, now the left hand. This action means, "Are you a leper that you never take off your clothes?" Lepers and those ill with small-pox are not allowed to stay in the towns.

83. Menstruation. A woman is not allowed to cook food for her husband till one week after menstruation.

84. A poisonous snake killed  snake.

| = knife with which it was killed.

⋮ is the usual sign for poison.

85. Drunkenness (really a drunk man being taken home by his friends).

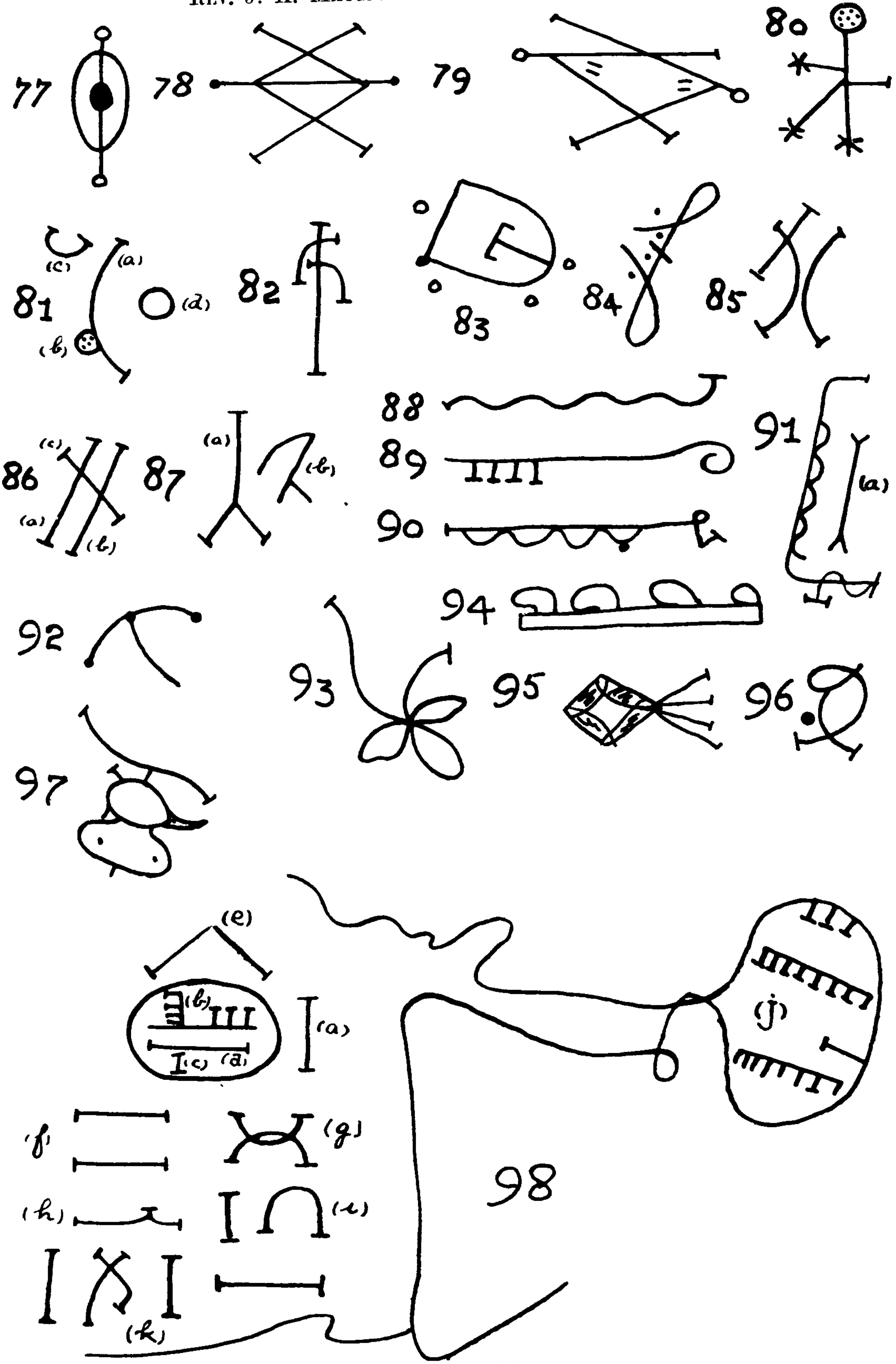
86. Ayikha is the native name for this disease. I do not know its technical equivalent. The full meaning of the sign is—(*a*) is a woman who has ayikha, (*b*) is a man who used to visit her. A friend, learning the condition of the woman, will warn the man not to visit her by writing this sign on the ground. The disease is contagious, but it is not syphilis.

Some Additional Signs—Unclassified. (Figs. 87–98.)

87. (*a*)—a man hanged by a rope (*b*).
88. Snake.
89. Water-snake.
90. A snake said to be very poisonous. A medicine is made from it by the Akuna-Akuna people, to enable a man to steal without being detected.
91. (*a*) a man sees this large snake and touches it with a stick which he takes to Abia-idiöñ, who tells whether it is a sign of good or bad fortune.
92. Poisoned bow and arrow used in hunting elephants. The Inokuns used them in fighting against the troops sent against them by the British Government at the time of the Aro expedition.
93. The butterfly.
94. Four snails.
95. Bird called itnew (fish hawk) and its feathers. A feather of itnew, powder, wad of a gun used to be sent from one tribe to another as a challenge to war. To accept the gift was to declare war.
96. Spider called *mkpanutue* (? Spider's web.)
97. *Utue ekpe*—leopard spider. A yellow and black striped spider found in the bush. It is said to be poisonous, but I have often handled it with impunity.

A Nsibidi Record from Enion.

98. The record is of an Ikpe or judgment case. (*a*) The court was held under a tree as is the custom, (*b*) the parties in the case, (*c*) the chief who judged it, (*d*) his staff (these are enclosed in a circle), (*e*) is a man whispering into the ear of another just outside the circle of those concerned, (*f*) denotes all the members of the party who won the case. Two of them (*g*) are embracing, (*h*) is a man who holds a cloth between his finger and thumbs as a sign of contempt. He does not care for the words spoken. The lines round and twisting mean that the case was a difficult one which the people of the town could not judge for themselves. So they sent to the surrounding towns to call the wise men from them and the case was tried by them (*j*) and decided; (*k*) denotes that the case was one of adultery or No. 20.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FIGS. 77–98.

SOME ULSTER SOUTERRAINS.

By Mary Hobson.

For many years past I have lost few opportunities of visiting and measuring any souterrains of which I have heard. The sum total is not so great as at first might be expected, owing to our very wet climate. So many are situated far from a railway station, occasionally in almost inaccessible places, and being underground are subject to flooding, some of which never dry up and are consequently impossible to enter, others I have waited for months to see, and again great numbers are closed, the entrances lost, and even their existence forgotten. I have been able to tell people that one existed on their own land.

I have carefully measured all that I shall have occasion to mention and made sketches and taken photographs of some entrances. The measured drawings are by Florence F. Hobson. I need hardly say that souterrain is the name that we give to artificial underground caves in Ireland. They are built of unhewn field stones and take the form of narrow chambers and long passages roofed over with large flag stones and are absolutely devoid of mortar. I shall deal almost exclusively with those in the two counties of Antrim and Down. Farther south a circular type of structure occurs. I have said that they are underground. That is so except in an earthen fort and in rare cases where the earth has been removed. One is always struck by the smallness of the entrances (which are most cunningly concealed) and also of the doorways between one chamber and another; almost always one has to lie down flat and creep through, and some I have been in are too small to admit the width of shoulder of an average sized man, a point I shall draw attention to later. The structures are quite dark and of an even temperature all the year round. They are near the surface and I have never come across any bad air.

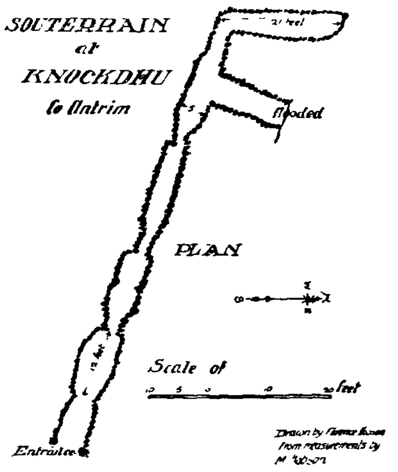


FIG. I.

I will take the Antrim caves first. At the foot of Knockdhu, a hill overlooking the coast-road from Larne, is a souterrain containing six chambers with a length of 87 feet exclusive of a flooded chamber (Fig. 1).

Again and again I am struck by the frequency with which prehistoric monuments are found quite near to the caves; in this case we have a giant's grave 32 feet long, a standing stone 17 feet 9 inches high, a second giant's grave, a kistvaen, etc. A small but perfect cave occurs at Crebilly near Ballymena; it contains two chambers.

At Shankbridge is a fine fort known as Fort Hill, and in it a cave. The first chamber is 10 feet long and 5 feet high, second chamber 15 feet long, and near the far end on the right is one of the low doorways leading to another chamber which is flooded; it is probable that this structure runs right through the fort, as on the opposite side is what looks like another entrance.

On the road to Crumlin from Belfast is Lisnataylor Fort. The cave in it contains only a single chamber 10 feet long, 4 feet to 4 feet 6 inches wide, height 3 to 4 feet; the covering stone at entrance is 2 feet 6 inches on the under-side, height of entrance is 2 feet.

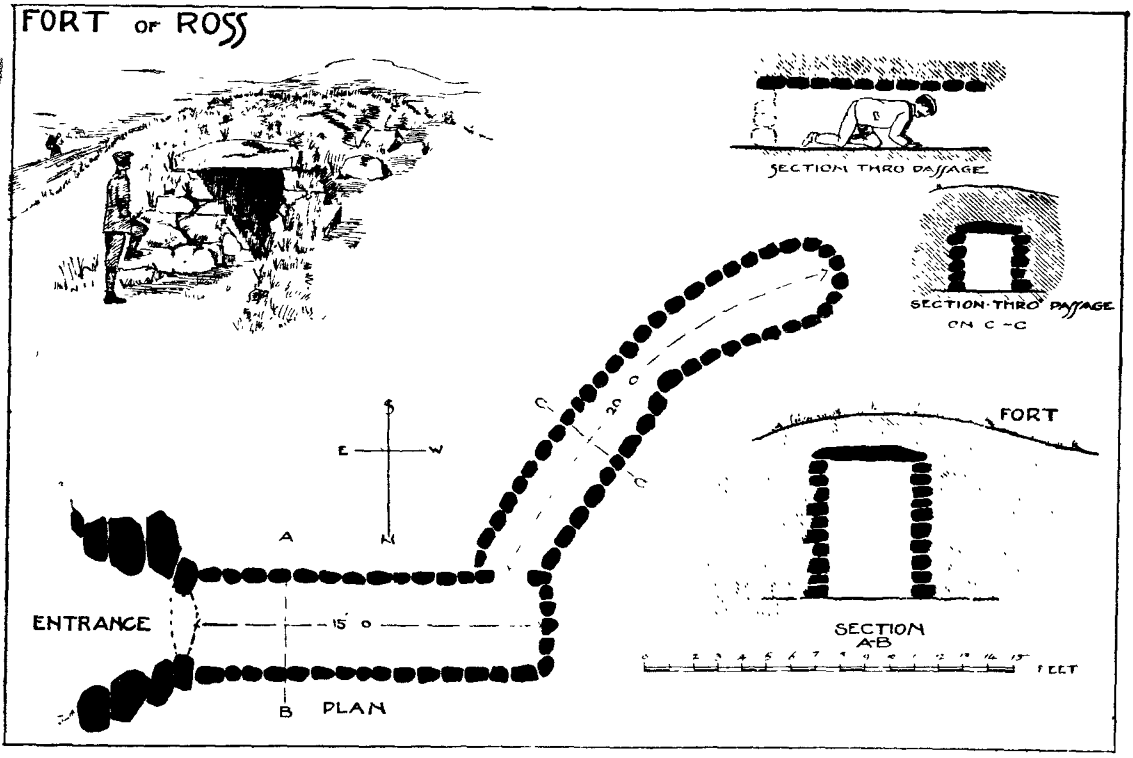


FIG. 2.

The district round Connor is honeycombed with souterrains. Two in the churchyard were measured years ago and reported in an Ulster Archæological Journal. In one day I visited and measured no less than four, Tanneybrack, Ballycown, Fort of Ross (Fig. 2) and Shankbridge (Fig. 3). This cave is a very perfect one and quite dry. It has almost the smallest opening I have been through. The first chamber is 15 feet long, 3 feet 9 inches high, second chamber 19 feet 6 inches long and 4 feet 6 inches high, the last doorway is 17 by 17 inches, and proved a perfect fit; last chamber 16 feet 6 inches long and about 3 feet high.

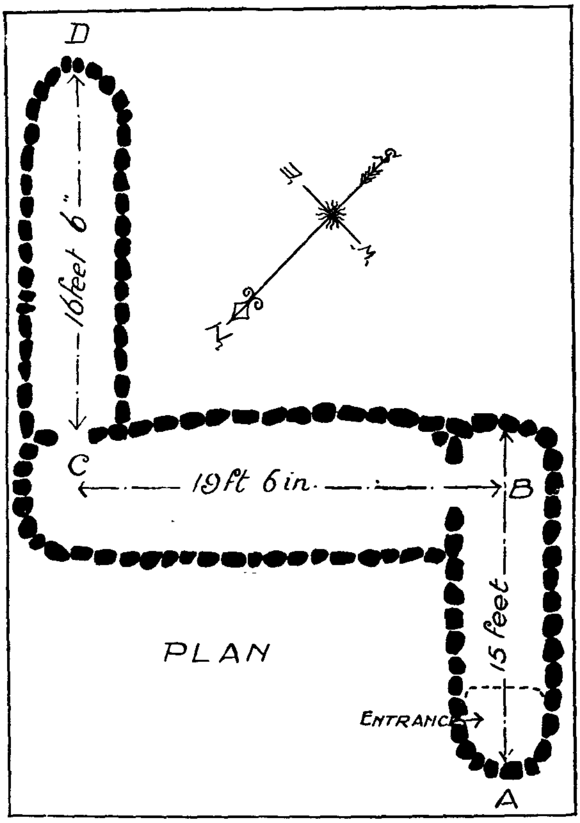


FIG. 3.

The one case of two distinct stories, one partly over the other, is at Bog Head, Muckamore. This was accidentally discovered, and we have not yet found the original entrance. The dimensions are: a sort of vestibule 5 feet 6 inches long; a low doorway 2 feet 7 inches by 1 foot 7 inches, chamber 7 feet by 4 feet and 5 feet high. A hole in the floor 2 feet 6 inches by 2 feet 2 inches admits to the lower chamber 19 feet 2 inches long, 3 feet 3 inches to 5 feet 2 inches wide. Again another doorway, but now choked up. Both these floors have been dug over by the Rev. W. A. Adams of Antrim, and have yielded pottery of a very primitive description, most likely domestic.

In co. Antrim there are certain diversities in structure which are not come across in Down.

At Donegore the entrance is large and looks like a natural cave, but the interior has been scooped out of the rock (basaltic ash), and has another chamber on higher level: the entrance cave is 5 feet 4 inches high, 8 feet 3 inches long, the upward tunnel 20 feet long, entrance 31 inches wide (Fig. 4).

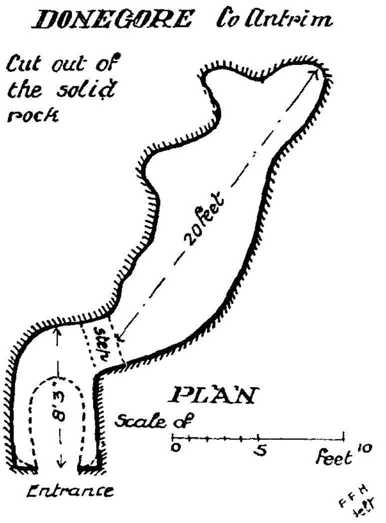


FIG. 4.

In the same district, at Ballymartin, is another of exactly the same type, cut out of the face of a cliff overhanging the river, but this has a roof of large stones placed across in the usual way. This souterrain has four chambers so rising in height that at the end one is almost in a standing position. The lengths are: first chamber 8 feet, second chamber 17 feet, third 7 feet 6 inches, the doorway 5 feet, and the last chamber is 7 feet, total length 44 feet 6 inches (Fig. 5).

Others of smaller proportions are, one at Liminary discovered in June, 1904, containing three perfect chambers, one 15 feet long and 5 feet high.

One near the "Altar in the Woods,' Glendun, with one chamber only. One near Tornamona Cashel, Cushlake, on the face of the cliffs overhanging the sea, a quite perilous place to reach.

At Tavenahoney in Glenan I found the only vent or shaft I have seen, though I know of another. I am not sure that it was intended for ventilation, but rather incline to the idea that it is a speaking tube to give warning to those inside; a boy spoke to me through it. It was closed on the outside by a rough stone like thousands scattered over the hillside. There are two short chambers.

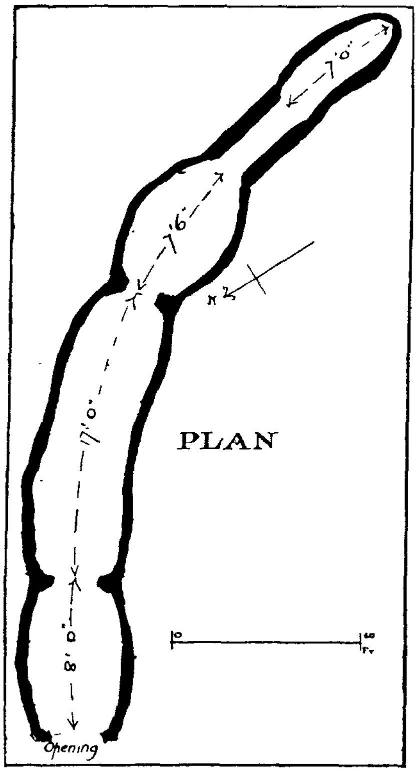


FIG. 5.

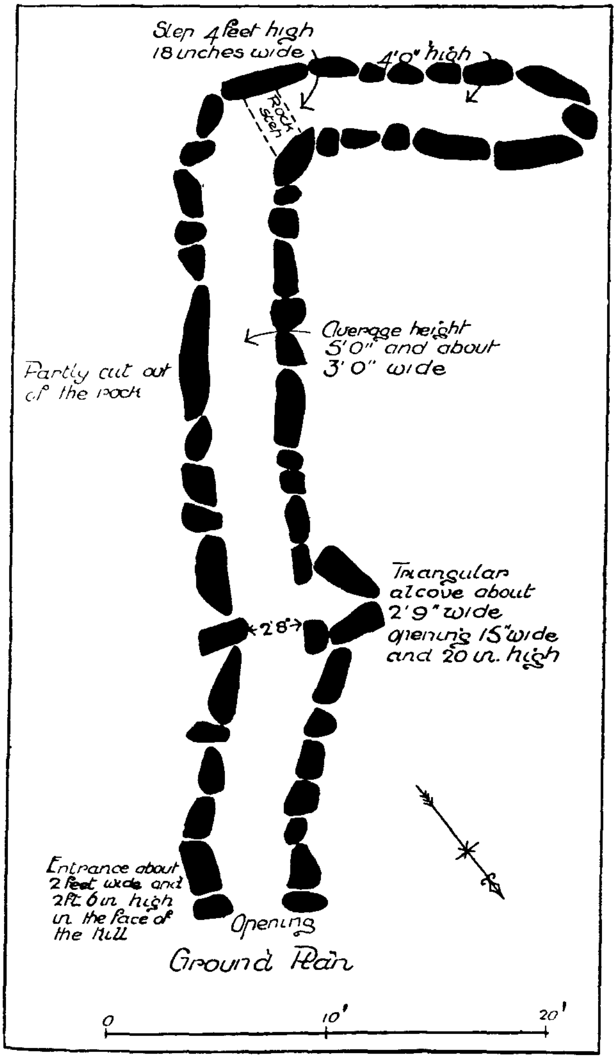

Step 4 feet high 18 inches wide
4'0" high
Rock Step
Average height 5'0" and about 3'0" wide
Partly cut out of the rock
Triangular alcove about 2'9" wide opening 15" wide and 20 in. high
2'8"
Entrance about 2 feet wide and 2ft 6in high in the face of the hill
Opening
Ground Plan
0
10'
20'

FIG. 6.

At Bushmills and Giant's Causeway I found two caves, one built of rocks *in situ*, and filled between artificially, with the only guard-chamber I know of (three rocks forming a triangle); just within the entrance some tunnelling has been cleverly done in the rock; at the Giant's Causeway near the P.O. tunnelling has also been done (Fig. 6).

The structures in co. Down while not showing the diversities of Antrim, *i.e.*, two stories, tunnelling, etc., are much longer. We will take a few of the more important.

At Ballygrainey (the town of the sunny palace) near Craigavad Station and within a few miles of Belfast is a very fine one, 70 feet 6 inches in length, and containing four chambers; the first being 16 feet 6 inches long, 5 feet 3 inches wide and 5 feet 3 inches high; to the right of entrance a passage 19 feet long, 15 inches and upwards in width, and the height of which varies from 2 feet 20 inches, the low doorway to chamber on the left (from entrance chamber) is 42 inches wide and 5 feet long, and just high enough to get through, the second chamber is 15 feet long, 5 to 8 feet wide, third chamber 15 feet long, 4 feet 6 inches high (Fig. 7).

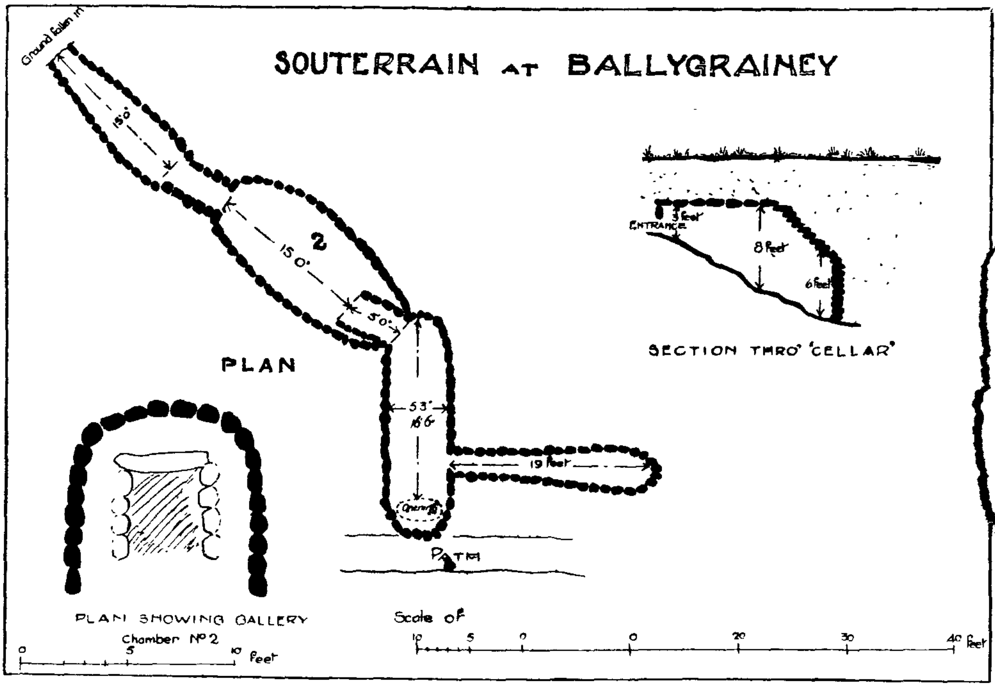
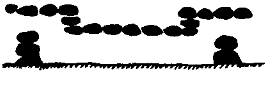


FIG. 7.

At Cove Hill, near Rathmullan on Dundrum Bay, the cave is 120 feet long, 3 feet wide and 6 feet high, with a transverse terminal chamber 14 feet by 5 feet. It has very curious barriers 2 to 3 feet high (Fig. 8), as also has one a few miles distant. This neighbourhood is rich in a fine stone circle, standing stones, cromleacs, kitchen-middens, etc.



SECTION THRO' A BARRIER

FIG. 8.

Half a mile away I found at Clanmagery another, 54 feet long. I asked had it ever been visited and was told once years ago by a very thin young man! One could well believe it (Fig. 9).

At Slanes, near Cloughy, is a very fine structure about 90 feet long. I found it flooded on the occasion of my first two visits and only on the third did I reach the end (Fig. 10).

The cave at Ardtole, near Ardglass, is 118 feet 3 inches in length, with a transverse terminal chamber.

On the slopes of Slieve Croob, one of the Mourne Range, is one of the finest cromleacs in the country, known as Leganauny cromleac, the cap-stone of which is 11 feet long; not far away, at the foot of Slieve-na-Boley, is the longest cave I have seen in the two counties. The entrance is very small; one feared to stick fast in it and run the risk of displacing the stones; in such an event entombment would surely follow (Fig. 11).

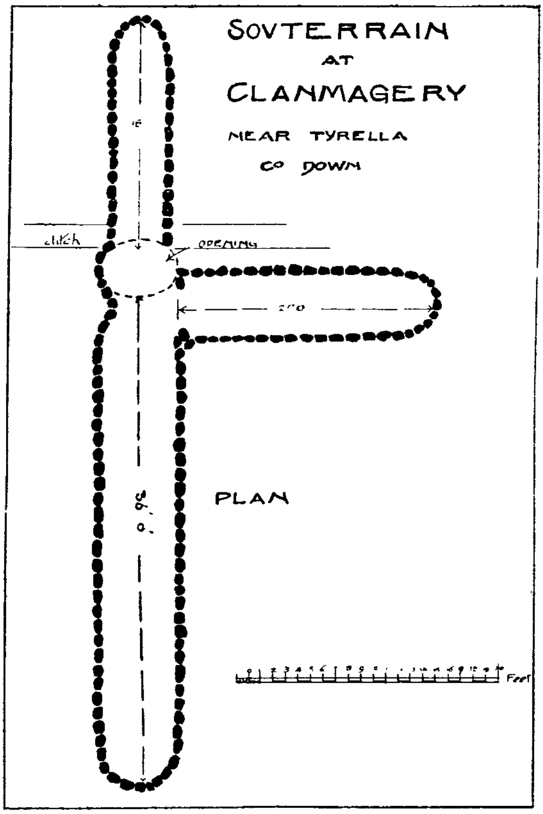


FIG. 9.

Recently I visited the chambered tumuli on the Loughcrew Hills in Meath. Quite near to them is a large souterrain with no very small openings, one passage ending in a great circular chamber, each course overlapping until closed by a single stone. A circular cave is in a fort at Lucan, co. Dublin; it is 10 feet in diameter and the same height. I have come across no structure of this shape in the north of Ireland except one now demolished which was really a tumulus; this type of

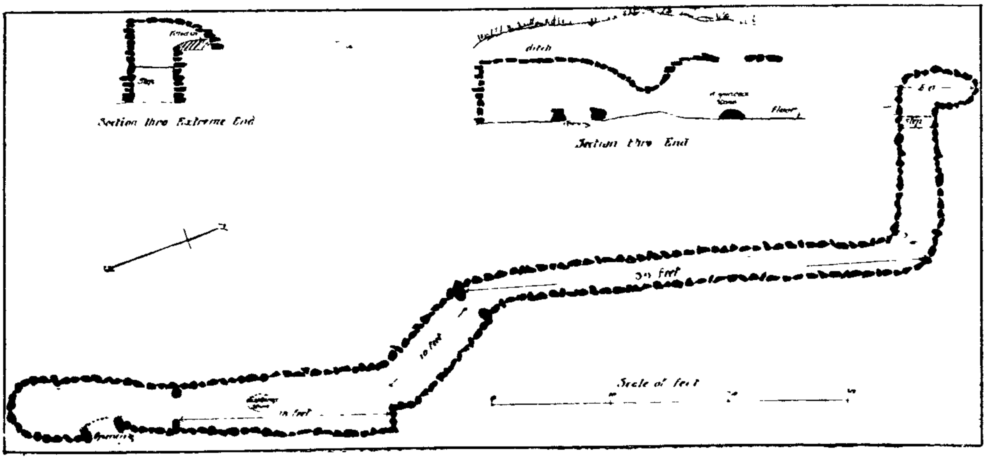


FIG. 10.

souterrain seems to me a link with the chambered tumuli at New Grange, Loughcrew, etc., though the latter are built of larger stones. In plan there is every diversity, some are mere passages, one is like the letter F, another like Γ, another the shape of an inflated stocking, some circular, an elongated W, and a crescent, etc , etc. Nowhere are the entrances oriented, but one thing is certain, it is almost impossible to get a good photograph of one in the middle hours of the day.

I should like to say something of tradition in relation to the structures. The building of them is nearly always attributed to the " Danes," the " Fairies," the " Good People," or in rare instances to the Picts. The Danes here referred to are not the modern Danes, but probably the Tuatha-da-Danaan, a people who are said to have lived in Ireland before the coming of the Celts. They are the " Fairies," and are said to have been of small stature, like "children," the country people will tell one. Innumerable are the tales of how a person's grandfather has seen them literally disappear into the earth and the hillsides, and how, even to-day, misfortune always follows the meddling with a cave, the cutting of a fairy thorn, or the removal of an earthen fort. Fairly educated people give instances, and will say they " don't altogether believe in it," yet they *know* of people dying within the year, their children being dwarfed, misfortune coming upon their cattle, etc., and very few people, even city-folk, will venture into these caves or palaces, and no wonder, for they are weird and uncanny, always enveloped in an awesome gloom. When creeping through the tiny doorways, if alone, one needs to summon some little courage.

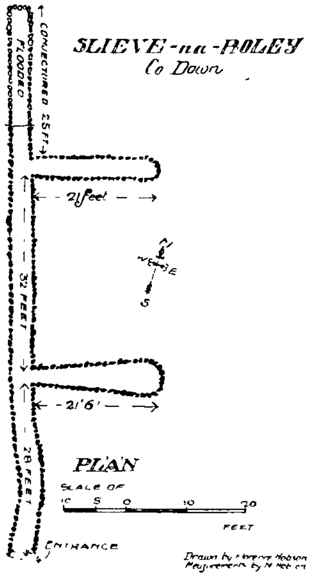


FIG. 11.

To superstition we may attribute their preservation in such numbers to-day; once that fear dies (it is only a question of time) they will disappear, for the owners will close or break them.

The first instance of an Ogam inscription being found in Ulster was at Carncomb, near Connor, a few years ago by the Rev. W. P. Carmody, B.A.; it was on the roofing stones, but so rubbed or weathered before being placed there that it was extremely difficult to decipher. Readings were made by Prof. Rhys and the late Dr. Buick, the former took it to be " Caig, son of Fobrach," a memorial to one who educated and baptized St. Cadoc, one of the early Fathers of the Church, thus bringing the age of this souterrain well on into Christian times (a second inscription is still in the cave). This is the seventeenth instance of Ogams discovered in these structures in Ireland. Though many souterrains may be of fair antiquity (judging by mode of construction, no mortar and no trace of arch, etc.), it is likely that some were built in more recent times. It is recorded that Donough Cairbreach O'Brien in A.D. 1242 built forts and

Brian Boru repaired many in which very probably caves occurred. We read that in 1317 "Donchad O'Brien before the battle of Corcomroe" summoned every man living in an "ooam" (cave) to his army (MacRitchie).

During the rebellion of 1798 the rebels took refuge in them; I know of several with this record.

Perhaps in Ireland no type of structure, whether for the living or the dead, has been so long in occupation, so long a thing made use of, more so even than the chambered tumulus, the cromleac, the kistvaen, the crannog, the bee-hive cell, or the Norman keep; even to-day the modern tramp does not disdain to spend a night in one of the outer chambers when it is big enough to admit him, and every one knows that the fairies of Ireland never forsook them and still continue to hold high revel in them.

NOTES ON THE INITIATION CEREMONIES OF THE BECWANA.

By the Rev. W. C. Willoughby,

Local Correspondent of the Royal Anthropological Institute.

There are two initiation ceremonies for Becwana youths, or, to be accurate, there are two sets of initiation ceremonies. The initiation ceremonies for boys are called *bogwèra*, and those for girls *boyale*. They are both referred to in Acts of Parliament and in current speech as "The Circumcision Ceremonies." But *circumcision* is a very insufficient translation of the Secwana verb *go rupa*, or of the nouns *bogwèra* and *boyale*.

The verb *go rupa* applies equally to *bogwèra* and *boyale;* but there seems to be no philological connection between the words, and I can discover no other words in the language that help us to determine the exact meaning of either *go rupa* or *bogwèra*. Of *boyale* we shall speak presently. It is most desirable, I think, that someone with the necessary training and the requisite apparatus should study these three words in the light of other Bantu tongues. And there is a fourth word that demands attention at the same time. *Bokgola* is the state of a person who has not passed through these initiation ceremonies, and it is hardly necessary to add that it is, therefore, a term of reproach for adults. But *bokgola* does not seem to stand alone in the language as the other words do. There is another word, if it is another word, said to contain a broader "ō" (*bokgōla*), which means moisture. But the Becwana themselves connect *bokgola* with the verb *go kgola* = to pull off the hoof, and they explain that the initiated are forbidden to eat the hoof of any animal, whatever that may mean. I have found a dozen Becwana giving the same explanation, but not one of the dozen could tell me why "hoofers" should be selected as the distinctive and contemptuous name of those who have *not* passed through the initiation ceremonies.

The central rite of *bogwèra* is the same in all Becwana tribes, and the same is true of *boyale*, but there is considerable variety in the attendant ritual. "In the initiation of men," said an intelligent and well-informed native to me, "the knife is one, and so it is in the initiation of women; but the songs and ceremonies differ in the different tribes. It appears as if the initiation itself came from one person, but in the matter of the songs and ceremonies the tribes make their own selection. They are not alike, and one is very quick to laugh at another."

It is evident also, I think, that the significance of the ritual is not known even by the tribes that preserve it. If the anthropologist can throw upon it the light of other lands and other epochs in the history of the evolution of man, it may become eloquent, and all the more eloquent because of the jealousy with which the secrets are guarded, the care with which the ritual is performed, and the high importance attached to its due fulfilment.

Before we can hope to do much in that direction, however, we shall have to obtain fuller and more accurate information concerning the songs and the ritual. But the method of direct interrogation concerning them will generally defeat its own ends. One has to trust, rather, to a wise engineering of conversation and a discreet exhibition of information already obtained. "To him that hath shall be given," is certainly true in this search after knowledge, and so I am encouraged to hope that a few scanty notes on what is, I am convinced, a very large subject will enable other explorers to push further into the country than I have ever managed to penetrate.

There is a story about the origin of these initiation ceremonies that is worth repeating. "In the old, old days," so the story runs, "there was a woman who initiated her husband into the *bogwèra*, and the husband told other men that he had been initiated by his wife. All these men gathered together and discussed the matter, saying, 'What shall we do, seeing that we are not initiated? Let us ask for initiation; let the woman initiate us.' And they agreed. Then they said to the man, 'We ask for initiation; we beg that your wife will initiate us, and that when she has initiated us we may kill her, so that the initiation may be ours.' And the man agreed. And the men gathered together and were initiated, and when they were initiated they killed the woman in the midst of their regiment. And thus women were no longer acquainted with the initiation; it came to belong to the men, whereas it used to belong to the women. But the women arose and began again to prepare their regiments, gathering the girls together and initiating them, but not in the knowledge of the men; and from that day to this there is no one who knows what these women do." So much for the story. Nothing more is known of this first man who was initiated, except that he was a great chief who lived in the East, as did the ancestors of all the Becwana, and was accustomed to see the sun rise over the sea.

Now, from this point I think it will be well to confine our attention to the *bogwèra*; we can deal with the *boyale* afterwards if an opportunity occurs.

The date of the *bogwèra* depends upon the discretion of the chief to a certain extent. It is held every fourth year, but the chief will sometimes delay the *bogwèra* or hasten it, for the sake of having a son of his own or, failing that, a nephew in the ceremony. He may order it for any date he likes in February and March, but other months are barred even to his discretion. As a matter of fact it nearly always begins with the new moon, Tlhakole, that is, February.

When the moon, Tlhakole, is seen the chief summons a great tribal assembly after the form which they call *lecholo*. That is an armed assembly of all adult males held at sunrise at some appointed place in the veld at some little distance from the town. All adult males are expected to be present upon such occasions, and they go forth by their regiments with all the shouting and excitement of a war. When the chief has formed his assembly in the usual way, he makes the simple announcement that this is the assembly of the *magwèra*.[1] Then the people scatter and seek their own children who are ready for the ceremonies.

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[1] Bo-gwèra (sing.); Ma-gwera (pl.). Quite regular.

Those who have seen a real Becwana town must surely have noticed that it is made up of circular villages. These villages are grouped together in what one may call wards. Sometimes a village is a ward in itself; sometimes several villages form one ward between them. The Secwana word that I have translated ward is *lekgotla*. Now, in the first part of the ceremony the children are assembled according to their wards. All the boys of a certain ward who are ready for the ceremony go forth to an appointed place in the veld, guarded by their fathers and elder brothers, in fact, by all in that ward who have already been initiated. The place appointed is always where there are *moshu* trees growing. The men cut down these trees, and the boys are set to take off the inner bark of the smaller branches and chew it well, so as to prepare the long fibrous threads of this bark. These threads are taken from the boys by those of the officiating regiment who are present (that is, the last regiment that was initiated), and are by them woven into the kilts which are to be worn by the boys at the *bogwèra* ceremonies. These kilts are very much like the string aprons that little Becwana girls in country districts very commonly wear, except that they are long enough to go right round the hips. As fast as these garments are prepared they are hidden away, for it would be a serious desecration if any woman or uncircumcised person were to look upon these sacred garments, or even upon the boys, while they are chewing the thread out of which the garments are made. It is a matter of ritual that the boys shall be drawn up facing the sun, the whole day through, while they are chewing the thread. There is no traditional explanation of this ritual, but it is thought that it is to prevent the uninitiated boys from seeing the sacred garments that they are afterwards to wear. While the boys are kept chewing this thread, there is much questioning among them as to the meaning of what they are doing, but they are always kept in ignorance of the garments. Of course, there is much dancing and singing while the chewing and the weaving goes on, and the boys are allowed to take part in it. This is called the *go rèma* (the chopping) ceremony, and it is continued day after day, beginning at early dawn, for the greater part of the Moon *Tlhakole* (February). The boys return home at night and take their food in the usual manner. Before leaving this part of the subject, it ought perhaps to be said that there is nothing peculiar to the *bogwèra* in the songs that are sung during the *go rèma* ceremony; and also that the garments prepared are called *moshu*, like the tree from which the fibre is taken. I hear that some tribes do not think it necessary that the boys should face the sun while chewing the bark, holding that this is a modern addition to an ancient ceremony.

On the evening when the moon *Mophitlho* (March) is seen all the boys proceed to the *kgotla* (place of tribal assembly) and spend the night there singing and dancing. After that they must not go home to their mothers. But all the initiated from the tribe, and other initiated people from other tribes that may happen to be in the town, will assemble in the morning and escort the neophytes to their camp; and the custom is that the whole party should *run* forth from the town to the camp. Their phrase is: *bogwèra boa go siana.* Right through the initiation ceremonies, both for the boys and for the girls, there are hints of alacrity and of cheerful submission.

The camp to which the neophytes proceed has been previously prepared for them. The chief has selected the spot that seems most suitable, and a day or two before the men and women of the town went thither and built hastily constructed booths of poles and branches and grass. The camp must be near a river, preferably in the neighbourhood of the fountain. But whether this is rendered necessary by the need for a plentiful supply of water for the sake of the ceremonial ablutions, or whether the ceremony itself is connected with the idea of a river-god, I am unable to determine. The camp is commonly called *bogwèrèlō* (the place of the *bogwèra*). In construction it is said to resemble the town from which the neophytes have come. But this seems to mean nothing more than that each *lekgotla* is represented by a booth, and that these booths are built inside the fence of the camp in the same order of precedence as are the *dikgotla* in a native town. The camp is surrounded with a fence of interwoven bushes made very strong. If it is a large camp there may be several entrances, but if small there will probably be one entrance only. Each hut is provided with a narrow doorway or, rather, a wide doorway divided down the middle by a pole, which thus forms two narrow doorways. One is called *kōce,* and is guarded by a sentinel. The boys enter by the other door, which is called simply *kgōrō ea banna* (entrance of the men). This arrangement of the double entrance appears to prevail among the northern Becwana tribes, but not among the southern Becwana. Among some of the kindred tribes in the north there is a custom of having the entrance to these huts very low, and emphasis is laid upon the ritual necessity of the low portal.

I can get no satisfactory information concerning this word *kōce.* It may possibly be connected with *kobe* (the barb of a spear), or possibly with *kōcō*, which seems to mean a hissing or chirping noise. Some Becwana, especially from the southern tribes, assert that they never heard the word, while many from the northern tribes are quite clear as to the use of the term. Two or three natives told me that they had not heard this word before, but that the first *bogwèra* song among some of the Bapedi is called *kosha.*

I have already referred once or twice to the officiating regiment, and it is important that I should explain this phrase fully. First then you must know that every Becwana tribe is divided into regiments, and that every man and every woman in the tribe belongs to one of these regiments. In a sense their regiment is fixed for them by their age, and this is so true that when one wishes to enquire the age of a Mocwana one usually asks the name of their regiment. And yet, as a matter of strict accuracy, it is not the age but the date of initiation that decides the regiment; for the regiment consists of those who take the initiation ceremonies together, and it is quite possible for a well-developed youth to take the ceremonies four years before his less fortunate senior. The officiating regiment to which I have referred is always the last regiment that was initiated. They are the *badisa* *ba bogwèra* (the herdsmen of the neophytes). Their proper official designation is *makgaye* or *makgaiyane,* which is the diminutive of the same word. Its singular is *kgaye* or *kgaiyane.* And here we have another word that would probably repay investigation. It at once suggests the verb *go kgayayèga* (to rage, to become furious, to trumpet as an elephant in anger). Now the *makgaye* are, in a sense the priests of the *bogwèra.* I do not mean that there are any sacrifices, but that they are the men whose function it is to preside over the sacred ceremonies; and, to one who knows anything of the very low standard of sexual morality that prevails among the Becwana, it is not a little astonishing to discover the notion of a virgin priesthood. There is still some doubt in my mind as to the exact meaning of this virginity. I have been told again and again by men who would not willingly mislead me that of the officiating regiment only those are allowed to perform the duties of the *makgaye* who have never known women. And I sometimes wonder whether there was, perhaps, a time in the far distant past when this demand was seriously enforced. But, as far as I can make out, the practice at present among the strictest tribes is to demand that only those shall perform the duties of the *makgaye* who have maintained their chastity ever since the date of their own initiation—that is, for four years past.

At the very beginning of the "ceremonies" the elders will examine the members of the officiating regiment as to their chastity. Nothing happens in a Becwana town that is not very generally known, and a young man's chance of deceiving his neighbours in a matter like this is not large. His comrades would very readily expose his unworthiness if they knew anything of it; and if he succeeded in deceiving them and it were afterwards discovered, he would get a most horrible hammering from the other members of his regiment. But I suppose it is the supernatural penalties that would act as the stronger deterrent. For it is universally believed among them, that if one unworthy person performs the duties of the *makgaye* the mortality among the neophytes would be very great, especially among those from his own *lekgotla.*

If a member of the officiating regiment fails to satisfy his elders of his chastity since the date of his own initiation, he will be severely beaten by his father or his guardian, if his father be dead; he will be forbidden to enter the huts of the neophytes, or to touch the food that is prepared for them, or to apply the switch to anyone of them; and he will be scoffed at by every neophyte in the camp. The officiating regiment is obliged to stay in the camp throughout the whole of the ceremony, which lasts two months; and the fines are very heavy for anyone who fails. The unworthy members have to remain for the same period, but in some tribes they are not allowed to enter the sacred enclosure, and in all tribes they are forbidden to enter the huts of the neophytes. They have to sleep outside, and to get their own food sent specially from their own homes. They have to sit apart and see the others sharing in the *bogwèra* meals. If the pots in which they take their food were but to come into contact with the pots from which the neophytes and the worthy *makgaye* take theirs, it would be a most serious offence; and the supernatural powers would visit the offender with some terrible calamity.

Members of older regiments constantly visit the *bogwèra* camp and partake of the *bogwèra* food; but they take their food from other pots, which must not be permitted to come in contact with the pots of the neophytes; and even among these it is demanded that they shall avoid women during the whole time of the *bogwèra* camp.

The first ceremony of the *bogwèra* is that of circumcision. It is performed on the day of their arrival in camp, and the greatest care is taken to preserve a correct order of precedence. This does not necessarily mean that the children of the chief who orders the ceremony will be circumcised first, for there may be boys who are his superior in birth. There is a precedence among the tribes as well as among the children of a tribe. In the Protectorate, for instance, the Bakwena would take precedence as against the Bangwaketsi and the Bamangwato, even if the ceremony were held in the town of one of the latter tribes, and similarly the Baralong ba ga Maweba would take precedence over all other branches of the Baralong and Batlhaping. But they would all yield to the Bahurutshe of Gopani's stad. And even among the Bahurutshe there is a small section, called the Bo-Manyana, who are superior to the reigning family. In a *bogwèra* camp the hut of this section would be on the sunrise side of the camp, just as it would be in the arrangement of a town; for though it is good that smaller men should build in their shadow, it would never do that the shadow of smaller men should fall upon them. These boys, as I have said, will be circumcised first if there are any of them present, and precedence will be carefully observed right on throughout the ceremony till rank can be traced no further.

The circumcision is sometimes performed by some of the *makgaye* of the ward to which the boys belong; but more frequently the chief appoints an older man of acknowledged skill to perform the operation for the whole regiment. There is no official name for this man. He uses an ordinary knife which he has sharpened specially for the purpose. The thumb of the operator is inserted in the foreskin and a circular cut is made right round. There is no attempt to stop the bleeding: nothing is done with the blood; and the amputated foreskin is simply thrown away. The boys are not allowed to know who circumcised them, and they are, therefore, blindfolded for the operation. The position of the boy during the operation is said not to be a matter of ritual significance; but as a matter of fact he is always compelled to lie upon his back on the ground, with his legs wide apart; and he is held firmly in that position. He makes it a mark of manhood to lie still without crying or wincing; but if there should be any obstreperousness, the switch is freely and unhesitatingly applied. Perhaps I should mention that the word foreskin is the same as that for mouth, *molomo.*

From the time of their circumcision and right on through their stay in camp, the neophytes wear no clothes and have to sleep on the bare ground. On the morning after the circumcision, however, they don the *moshu* or fibre-kilts for the first time; but these sacred garments are worn only as the insignia of the dance, and are laid aside each day when the dance is done. They smear themselves, also, with white clay. And the dressing-song runs:—

A bo itlhamèla !	Take warning !
Boshweu yoa rara	The whiteness of the father
Borona molomo.	Is unbecoming on the mouth.

They explain their use of white clay in two ways. In the first place, they say, it keeps them from being seen by women; and throughout the whole of the ceremonies it is a matter of first-class importance that no woman should look upon the neophytes, or their camp, or their clothes. It is true that women help to build the camp, but that is before it is ceremonially founded. The second explanation is that *serètse seo se tlosa dikaō tsa bosimane* (the white clay removes the signs of boyhood).

Purification by water is, also, a great feature of the ceremonies, but I have not been able to ascertain whether the water purification precedes the daubing with white clay. Upon the whole it would seem that the daubing with clay comes first, but there is a lack of definiteness about my informants when they speak of this matter and that makes one hesitate to build upon such a foundation. However that may be, it is certain that the *makgaye* compel the neophytes to plunge into the pools in the river-bed every morning. "There are as many washings in our *bogwèra*," said one of my informants, "as there were among the Jews of whom we read in the Bible. It is not a matter of dirt: it is a part of the ceremony." And they say that this is the reason why the camp has to be founded on a river.

But the Becwana of old rubbed themselves with white clay as a matter of cleanliness. The old practice was to anoint the whole body with what they call *lecuku*, that is with a pure oolitic hæmatite ground into a fine powder and mixed with fat. They regarded this as a mark of Becwana birth. "Other tribes," they say, "smear with fat; but the Becwana smear with *lecuku*." This mixture of *lecuku* and fat will not, of course, yield to water; and it was common to rub themselves over with white clay whenever they wished to remove the old coating before applying a fresh one. As for the purification with water, that is still common among them. If a person is absent from home for a year or two, he will not think of touching his friend when he returns, till water is provided, when each will take a little in the hand and sprinkle it over the other.

The neophytes are marched to the water twice a day, morning and evening; and on the way they are guarded as prisoners are, to use the phrase of my informant. If any woman or uncircumcised person is seen in the distance, the officiating regiment set up a great yelling; and quite lately deeds of violence were done in the Protectorate because the yelling was not heeded. In the old days it would have meant death for the offender; and certainly it would have meant death for any neophyte to allow himself to be seen by a woman.

Singing and dancing are matters of every-day routine with those in the camp. The more important of the dances take place within the sacred enclosure. But every march to the water is the occasion of dancing and singing. There are no special songs for this occasion: they sing any that they know; but there are one or two that are always in evidence at such times. One is:—

Phuduhudu tsaaka	My stembucks
Metse ya di a nwe:	Do not drink water;
Di nwa segotlèlō:	They drink the mirage:
Di khutla botau—	They shrink from the lions—
Botau le nkwe.	The lions and leopards.

Food is by no means the least important part of the initiation ceremonies. It is cooked by the women in the town, whether it is meat or porridge; and morning and evening the women and girls go forth carrying the food for the neophytes to some place that has been previously appointed. This place is always carefully arranged so that the camp cannot be seen from there nor from the road that approaches it. The women place the food upon the ground and retire from it. Then the *makgaye* approach and take it, driving the women away with more or less of action calculated to inspire fear. The *makgaye* take this food to the camp, and the worthy among them are invited to join the boys at their meal. I have already stated that the boys of a ward live together in the hut or booth that was built for the use of that ward. These boys have their food in common, eating together out of a large wooden bowl.

For about the first week they eat nothing but porridge, and there is a ceremonial way of eating it. If a boy were to dip his fingers into his porridge as he was accustomed to do at home, it would be a grave fault, and he would be immediately and severely switched. The boys from the same ward surround their great wooden bowl, kneeling on the ground; and each boy must hold his left hand above his head, scrape off a portion of the porridge with the side of his right hand, and thus convey it to his mouth.

After the first week there is always an abundance of meat. People make it a point of honour to provide liberally for their children who are at the ceremonies. And often a rich man who has no child of his own at that particular initiation will send gifts of food to some boy who is there. If meat is slaughtered for the ceremonies, it is important that none of it should be tasted by others till the neophytes have tasted it.

The neophytes spend some portion of every day hunting small animals with cudgels. They hunt especially the smaller antelopes and the hare. But the neophytes are forbidden to eat these things. They are eaten by their elders who may be present in the camp. It is permissible, however, for the *makgaye* to eat of these things with the elders who may happen to be present when the game is brought home.

Perhaps the most prominent feature of the initiation ceremonies after the act of circumcision is the application of the switch. The significance of it appears to have been lost, but it is very freely used. The boys are roused at cock-crow every morning and taken to the place of assembly in the centre of the camp, for a whipping. The switch used is always the *moretlwa,* though in ordinary life the Becwana prefer the *moselebele* (*Kareeboom*). There is, apparently, no attempt to draw blood with the switch; but it is applied to the back of the neck and to the shoulders, and many of the boys have their neck and shoulders considerably swollen. I should have noted the fact that the switches are used unpeeled. At the time of whipping the boy is always reminded of his faults. He is accused of having let the goats or cattle stray, or of losing the food or wasting the water. These accusations must have reference to the past, because the boys have no work of any kind to do during the ceremonies. Every slip which a boy makes in reciting the initiation songs means a special application of the switch. To quote the words of an informant, the idea is, *Mosimane ke wèna; u tlè u utlwè rrayō sentle; kea go itaea, kea go laèla yalo go re u utlwè rragō sentle le mmagō* (You are only a boy; learn to obey your father properly; I am thrashing you, and thus I am teaching you to obey your father properly and your mother). There is a proverb concerning this: *Bogwèra go utlwa bo ditèwa* (The neophyte hears the law while he is thrashed).

But it is very important that the switch should be applied only by such of the officiating regiment as have maintained the chastity qualification. If it should be applied by one who has broken his chastity obligation, the neophyte's penis will swell and will cause his death.

As a side-light on the possibilities of this whipping, it may not be amiss to quote a story concerning Makabe, a chief of the Bangwaketsi some generations ago. It is said that Makabe wished to kill his son Cose, and had rubbed some poison on the *bogwèra* switch with which he intended to whip the boy. The boy was, however, warned; and when his father took the poisoned switch to whip him, he begged that another switch might be used.

Of course, there are *maōma* (secrets) of the ceremonies; and it is likely that they are numerous. They are difficult to discover, because it is thought very dangerous to give away the secrets of the ceremonies.

Among the Batlhaping and the Baralong (and the former are an off-shoot from the latter), if a stranger approaches the camp, one of the *makgaye* will meet him outside and will give him the sign. This is made by holding the right hand before the eyes with the two forefingers curved forward, the back of the hand being toward the face and the thumb keeping down the third finger. This sign may be given in silence, or it may be accompanied with the question, *Kgome eo mañ?* (Whose ox is it?) In either case the stranger should reply, *Kgomo eo Toma* (Toma's ox). Then follows another question, *Toma eo mañ?* (Whose Toma?) To this the reply is, *Toma eo Monoge* (Monoge's Toma). This begins a long series of similar questions bringing out twenty or thirty names in succession. This formula is known as *Kgomo eo o Toma—Toma a Monoge.* It is thought that Toma and Monoge were chiefs of the Becwana—masters of the law, I have heard them called—and that the other names are those of ancient chiefs in the succession. It would be of interest if we could secure the whole formula as it is used in each Becwana tribe and compare the one with the other. It might indicate exactly the relationship of the several Becwana tribes.

With regard to this name *Toma*, it may not be amiss to mention the fact that the piece of second importance in Becwana dice is called *tome*, when it stands on the narrow side, and *thoyane* when it stands with the hollow side uppermost. There is not a very great difference between *tome* and *tōle*. And there is an old proverb of a boastful character, which is used by the Baralong, and which calls them the calves of *tōle*. It runs, *Dinamane tsa tōle, Baralong di ya mogope di olala* (Tole's calves, the Baralong, will eat the grass out of an old roof and just look philosophically from side to side).

Mafhifho is another secret word. It is the reply of the neophyte to every allusion to the town. If a person comes to the camp from the town he is sure to test the neophyte by remarking that he comes from visiting the women, upon which the neophyte is bound to reply *Mafhifho! Mafhifho!* If he fails to make this reply, he gets an extra whipping. This word is said to possess a deprecative meaning and is the same thing as saying *puonyana hèla* (empty words). Its connection with *bohèhō*, which means lightness as well as speed, would seem to warrant one in translating it vanity.

Another pass-word of the ceremonies is *tswi* or *tswai*. It is used especially to indicate the fact that one of their craft is returning to them after an absence. And more frequently it is embodied in a short song, which runs,

Tube, modikana!
Tswi, modikana!
Di gōne di moo.

I cannot translate this, because I am unable to give a rendering of the two principal words. *Modikana*, or the plural, *madikana*, which is often substituted, is a common name for the neophytes. It comes from the verb *go dika*, to surround. The camp is often called *bodikana*. *Di gōne di moa* means they are there, and the particles suggest that the "they" refers to oxen. But *tube* and *tswi* are ceremonial words of which I can get no translation: the meaning of them seems to have been forgotten. It is said that *tube* is used in the initiation ceremonies to mark the end of verses in initiation songs. And *tswi* is the pass-word itself. Now if the secret word is conveyed thus in a song, the word *Mafhifho*, to which we have already referred, must be embodied in a song as the ritual reply:—

Mafhifho! Digota molelo!	Vanity! Fireplaces!
Mafhifho la bogodicaba	Vanity of running round the camp.
Godicaba golo.	Going round often.

I have attempted a translation of this song, but I am afraid my translation can only claim to be one of the possibilities. In songs and proverbs many old words occur, and the present generation seem able to give one no more than a tentative explanation of them.

U cwa kae? (Where do you come from?) is a very ordinary Secwana question which usually follows the greeting of a traveller. But there is a special *bogwèra* reply to it:—*Moshu u ko mhachwa.* I have found no one who has been able to give me a definite translation of the last word; but it has been suggested that the phrase may mean: "Fibre-kilt, please bestow upon me."

Singing and dancing are the constant employments of the neophytes in the camp. It is held very strongly that the neophytes should be kept constantly employed at something or other during the whole time they are in the camp There must be no time of leisure. This strikes one who is familiar with the Becwana character as the most remarkable feature of the initiation ceremonies; and singing and dancing are made to fill up all the intervals. Many of the songs sung are not peculiar to the ceremonies, and may be heard frequently in the miscellaneous assemblies of town life. But others, especially the *Dipina tsa molaō* (Songs of the Law) are so sacred, that death would be the penalty, in the old days, of singing one in the presence of women. And it does not mean merely that the offender would be killed by his neighbours, though that would probably have been the case; but the chief himself would enforce the penalty. Things have changed now, of course, but it is still difficult to get the words of the Songs of the Law. One of them is called *Sekidibyana.* It begins:—*sekidibyana sa motlhaka se gana ke sena motse.* But I have not succeeded in getting more than that, and I can find no one who will tell me what the first word means. I give a few of the Songs of the Law, accompanied by the best I can do in the way of translation; and may I take the opportunity of saying that I shall be grateful for any assistance that those conversant with Secwana will render me in the correct translation of these songs. I am quite convinced that some of the songs are intentionally ambiguous, and that sexual suggestions are often covered by an ambiguity of phrase that upon the surface suggests something much more innocent. Scarcely any of them seem to have an ending, and some of them appear to lack a beginning. It is probable that what I have secured are only fragments of much longer poems (if I may use that word), and it is scarcely likely that there are many people who are able to recite the complete poems. There are no titles to many of these songs and the numbers are inserted here merely for the convenience of this paper.

1.	*Mogae? Rramotho! Rramotho!*	At home! One's father! One's father!
	Rramotho ga u rogwe.	One's father is never cursed.
	Oa re a rogwa.	Should one curse him
	Go cwa o boifhshè,	He will be afraid,
	Go boifhshè inō,	Afraid of the tooth,
	Inō letèlèlè,	Even the long tooth
	Le yañ nchotlwane,	Which eats tripe
	Le bokutukutu,	And chitterlings,
	Nama tsa bagolo.	The meat of old men.

2. *Ñwana a dikgomo!*	Child of the cattle!
Oa re di gañwa,	He, when the cows are milked,
A tlhomèlè thebe;	Takes up his shield;
E re motshegare,	And when it is day.
Tau chwara kgomo,	And the lion seizes the cow,
A ñate ka kobe,	He pierces with his spear,
Kobe moñatana;	The piercing spear,
Mo ñata dibata,	He pierces the beasts,
Dibata, botau,	The beasts—the lions,
Botau le nkwe.	The lions and leopards.
Ñwana a dikgomo!	Child of the cattle!
O lo fhitlhèla	Whenever you see
Le dikgomo,	The cattle,
O se ka oa re,	Do not say,
"*Rra ga eo!*"	"Father is not here!"
Rragō monna o sele.	Your father is another man
Oa lethebe;	Of the shield;
O tlhabane.	He fights.

3. *Phofhule! Phofhule!*	Young elands! Young elands!
Phofhule tsa lecholo,	Young elands of the hunters.
Phofhu ke re loshwa	The elands when dead
Lwa ntèma naka;	Their horns are cut off;
Ea re di yewa	And when they are eaten
Marapō a cōnè	Their bones go to the men;
A èè banneñ;	The men, too,
Banna le bōne	Take them away.
Ba a isè ñape.	

Phofhule! Phofhule!	Young elands! Young elands!
Matlhō di ñapane,	They scratch each other's eyes,
Di ñapa barwadi.	They scratch the children.
Barwadi le bōne	The children, too,
Ba di ñapèlaè!	Let them scratch for themselves!

Phofhule! Phofhule!	Young elands! Young elands!
Dia lo bolawa,	When they are killed,
Marapō a cōna	Their bones
A èè banneñ;	Go to the men;
Banna le bōne	The men also

Ba a isè naapè,	Take them away (for safety)
Naape ea thèola,	It goes down,
Thèola ritè,	Goes down properly,
Ritè le ka kgomo,	Properly, whether it is the cow,
Le ka kgomo phachwa.	The black and white cow.

4. This song is entitled *Molaō sekvtlwō.*

Mma se ntiè	Mother, do not delay me,
Ka pitsa ea mosho.	On account of the morning pot.
Kgomo di bolola ;	The cattle are loosed;
Tilodi coorra,	The black and white of my father—
Namane a kgomo,	The calves of the cattle,
Erile di bolola,	When they were loosed,
Tilodi ea tlhaba thamaga,	The black-and-white one gored the red-and-white one,
Ea senyetsa ñwe matsiba,	Spoiling its skin,
Matsiba a go segwa thebe,	The skin of which shields are cut,
A segwa thebe di thamaga,	The cut-out shields, red-and-white,
Thamaga tsa bo semareta,	Red-and-white of the honoured ones,
Mareta mareta dikōma,	Who honour the laws (or poems)
Modika ! kōma di ratilwe !	Neophyte! The laws (or poems) are liked!

5. *Banyana ba ga mogolle !*	Children of my elder brother!
Basimanyana ba ga rra !	My father's boys!
Nna, molaō ke o itse ;	I! I do not know the law;
Ke itse oa dikgomo, hèla ;	I know the law of cattle only:
Ke ōna ka o laèlweñ.	It is that that I was taught.
Kgomo ea re di bolola,	When the cattle are loosed
U tsèè thebe u tlhomèlè !	Take your shield and arm yourself!
Ea re kwantle kwa gareganaga	When they are out in the midst of the veld
Tilodi ea tlhaba thamaga,	The black-and-white one gores the red-and-white,
Ea senyetsa ñwe matsiba,	Disfiguring its spots,
Matsiba a go segwa thebe,	Spots for cutting out shields,
A segwa thebe ditoñwana,	Cut-out shields! Little shields!
Toñwana tsa bo semarata.	Little shields of the honoured ones!
Madika, marata-dikōma !	Neophytes! Lovers of the laws (or poems)!
Modika ! Kōma di ratilwe !	Neophyte! the laws (poems) are loved!

6. *Rrañwane a motho*	A man's uncle (father's younger brother)
O mo gapa kgomo.	Takes away his cattle.
A a lesiwè naeō ;	Let him have them;
A a dikè a gamè ;	Let him milk the whole season;

A a gamèlè bana;	Let him milk for the children;
Kapo mosimane,	Perhaps it is a boy—
Modisa a kgomo;	A cattle-herd;
Kapo mosetsana—	Perhaps it is a girl—
Mogogèla metse.	A water-carrier.

7. *Segodi se marulaneñ*	The hawk on the roof
Se itsa mueba go sèla.	Forbids the doves to feed.
Bonnaka lo se bolaèè;	Kill it, you younger brethren;
Lo se chware lo se bolaèè;	Catch it and kill it;
Se leta tshimo ea Morena.	It scares birds from the chief's garden.

8. *Kgano o ya tsiè;*	The meer-cat eats the locusts;
Bata dịa yana.	The wild beasts eat each other.
E re ha di yana	When they eat each other
Lo mme di yana;	Just let them eat each other;
Lo na botshabèlō,	You have a refuge,
Botshabèlō boeo,	An ultimate refuge,
Boeo ke Mokwena,	Which is at Mokwena's,
Mokwena ga lota,	Mokwena of the distance,
Ga lota ya tshèphè,	The distance of the spring-buck,
Tshèphè moririma.	The spring-buck, the wanderer.

Note.—Space does not permit me to make notes on these Law-songs, though there is much to be said about each of them. It ought to be said, however, that the above song is peculiar to the Bamangwato, whose hereditary refuge in a time of dynastic quarrels was the Bakwena town.

9. *Molelo a o tukè ka kwa kgosiñ!*	Let the fire burn at the chief's!
Ba dintlha ba o latè ba o tsèè!	Let those round there take it!
A ke ne ke tla a fsha!	Was I to be burnt.
Ke se gauhi le kupa a molelo!	Who was not near the embers!
Molelo tlhase di fhisa baori!	Of a fire the sparks burn those who are warming thereat!
Ditlhase di fhisa baori!	The sparks burn those who are warming thereat!

The foregoing are but a few samples of the very numerous songs of the law that are sung at the initiation ceremonies. They are, perhaps, fair illustrations of the best teaching of the camp. But there are other songs of quite another order. In conversation with a *mocwana* about the obligation of chastity which lay upon the regiment that had gone through the initiation ceremonies and had not completed its term of priesthood, I inquired whether he really meant me to believe that the teaching of the camp was in favour of chastity; and when he asserted that it was, I provoked him into supporting his assertion with a sample of such teaching. The following is the song of law with which he supported his contention. It runs:—

Phisana! Phisana!
Phise mela naka:
U tlo u itlhabèlè!
Dira coo polo,
Ga twiwa di etla.

I append the translation as a note at the end.

Now to return to our narrative.

The neophytes will remain in their camp during the moons *Mophitlho* and *Moranañ* (March and April); and when the moon *Motsheganoñ* appears (May) they return home. They first shave their heads roughly, and then leaving their regalia in the camp they go to the water and bathe, after which they anoint the body with the preparation of oolitic hæmatite and fat that I have already referred to, and apply what they call *sebilo* to the hair. *Sebilo* is a pure hæmatite which is first ground, then washed with water to remove the redder powder. The result is a reddish-black paste of iridescent appearance when dry. This is applied to the hair of adults as an adornment. Then they array themselves in new garments that have been sent them for the purpose; and towards evening they burn their camp with all its regalia, and return home. When their heads are shaved they receive their regimental name from the chief; and they are told that they are now men and warriors, and that their lot will be to die in battle after they have felt and endured the pangs of hunger. From this time they are called *dialogane.* It is not easy to translate this word, but perhaps I shall not be far wrong if I render it "the returners." They are now people of importance, and they must walk with downcast faces and solemn mien, each carrying his cudgel and his switches. At sunset they proceed to the great place of tribal assembly, where mats are spread for them, upon which they spend the night. Early next morning their heads are properly shaven by the women (for it is held that men are but bunglers at shaving; it is women's work like cooking and smearing and cupping and gardening), and their faces smeared with a decoction of pumpkin seed. Then they are presented with shields and spears, and they go out to herd the cattle. Towards evening they are met by the men and their faces marked with white lines. There is a white line drawn down the centre of the forehead and extending along the ridge of the nose, and another line which crosses this one on the forehead and extends downwards on each side outside the eyes and the cheeks. Whether these lines are in any way connected with war it is hard to say, but it ought to be mentioned that the old custom was to mark the body all over with white wavy lines before going into battle.

On this first day, which is called the day of the Thoyane, the *dialogane* will return to the place of tribal assembly before sunset and will lie upon their mats; and all the men and women of the town who have passed through the ceremonies will gather together in the place of assembly and sing the Thoyane songs right through the night. During this time it is the business of the officiating regiment to shield the *dialogane* from the gaze of the women. The women will occasionally try to rush the regiment and pull the blankets off the sleepers. But the *dialogane* must not resist, or laugh, or speak. They must maintain a solemn expression, with downcast eyes. It is most important that their teeth should not be seen. They must simply lie still and let the guards protect them.

There are quite a number of Thoyane songs, and I give two of them :—

1. *Gokgo ! Gokgo, he ! Gokgo !*	Thump ! Thump ! Oh, thump !
Se robaleñ.	Do not sleep.
Baa ya ditlhōgō.	They are eating the heads.
Se robaleñ.	Do not sleep.
Gokgo ! Gokgo, he ! Gokgo !	Thump ! Thump ! Oh, thump
Se robaleñ.	Do not sleep.
Ba boa tlhōgō.	They are skinning the heads.
Se robaleñ.	Do not sleep.

2. *Ñwana a mma !*	My mother's child !
Ga kea utlwa ka moñwe ;	I have not heard from anyone ;
Ke molobecwi.	I am one from whom it was hidden.
Oa ga mma !	My mother's child !
Ga kea utlwa ka moñwe ;	I have not heard from anyone ;
Ke molobecwi.	I am one from whom it was hidden.

For about a week after the return of the *dialogane* these festivities continue. Every day the *dialogane* will go forth to herd the cattle or to hunt, and every night they will sleep on their mats in the place of tribal assembly, which is a manly thing to do; and throughout the whole time they must preserve a solemn mien when women and girls are about, and they must talk only to men. When there are no women and girls near they may be as lively as they please; and every evening the unmarried girls who have passed through the *boyale*, or initiation ceremonies for girls, will assemble in the place of tribal assembly and try to see the *dialogane*; and night after night the officiating regiment has to protect them from the prying eyes of the girls. On these nights the girls do a great deal of singing, and among the Bakhurutshe and some of the Makalaka tribes the singing takes on the character of a musical dialogue. The Bamangwato and most of the southern Becwana have the same Thoyane songs as the Bakhurutshe and Makalaka, with everywhere a little tribal variation, of course; but it is doubtful whether they had the same *Dipina tsa maitishō a dialogane a motlhapudi*—that is the name by which these songs are called. *Motlhapudi* means clean, one who is clean. But it is the word for an overseer of the *bogwèra*. *Maitishō* is used in the sense of leisure. So that *Dipina tsa maitishō a dialogane motlhapudi* may be rendered "Songs of the leisure of the returners, the clean ones." These songs consist, so I am told, of hundreds of questions and answers like the following. They appear to be distinctly above the general level of Becwana songs.

(One girl)	*He ! He ! Naledi !*	Oh ! Oh ! Star
	Mosipidi ! Mokotlamèdi !	Traveller ! Thou who sinkest below the western horizon !
(Men, all)	*Ka re, Tsela ga u e bōnè, he ! ?*	I say, Oh ! do you not see the road ?
	Mosipidi ! Mokotlamèdi !	Traveller ! Thou who sinkest below the western horizon !
(One girl)	*Baō boō tsèla ka ba gagō*	Those who travel are thine,
	Mosipidi ! Mokotlamèdi !	Thou traveller ! Thou who sinkest below the western horizon !
(Men, all)	*Ka re nna ka re molala a tladi*	I say, this I say, the milky way
	Ga u o bōnè, he !	Don't you see it, oh !
	Mosipidi ! Mokotlamèdi !	Thou traveller ! Thou who disappearest below the western horizon !
(One girl)	*A ga u utlwè ñwana a lailwè, he !*	Oh, dost thou not hear the child who is instructed !
	Mosipidi ! Mokotlamèdi !	Thou traveller ! Thou who disappearest below the western horizon !

After the week of the *maitisho a dialogane motlhapudi* is over, the youths go to their own homes, for the initiation of the first degree is now complete. They will receive presents from their fathers and will be taken long distances to friends who are likely to prove generous to them; and for months to come they will strut about in the full glory of their new-found manhood and in the finest clothes they can procure. They are called *boshōtlwane* at this period, and *boshōtlwane* seems to mean, Those who have moulted and put on their spring plumage. The gifts which they receive at this period are called *maalosho*, and the giver might say to the young man *Kea gu alosa*. It is the causative form of the same verb that we found in the name *Dialogane*, the returners.

After this they will go to the cattle-posts or wherever they have work to do. They are under the obligation of chastity for four years, or until they initiate the next regiment of neophytes; and the beestings of cows that have calved will everywhere be offered them. For beestings may be drunk only by lads and girls who are virgins or by the *dialogane* who are faithful to their obligation of chastity. If others should drink the beestings the calf will swell at the knees and probably die, and there is danger that the cow will lose its next calf. But if the *dialogane* drink the beestings, both cow and calf are safe.

When I began this paper I hoped to deal with all the initiation ceremonies for boys and girls. But it has been impossible to do more than describe briefly the initiation for boys of the first degree. The rest must remain over for the present.

(The following is a translation in Latin of the Bogwera song mentioned on p. 242:—

Vaginula, vaginula,
Vaginula porrige cornu;
Ictus para et tu ipsa!
Copiae penis
Instare nuntiantur.

I have translated *phisana* as the diminutive of *phise*: it is certainly that in form, but both these words are so old that they are not now in use, except in the Bogwera songs. It should be mentioned that in Secwana the feminine is often expressed by changing the word into the diminutive form; this is seen notably in the names of the colours of animals: I am not at all certain that *phise* is not masculine. The word *polo* is used of oxen only in common speech and as a curse-word when applied to persons.)

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.[1]

By C. G. Seligmann, M.D.

[With Plates XVI–XXIII.]

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In this paper I have endeavoured to bring together the information which, in the present state of our knowledge, seems to me to bear in such a manner upon the classification of the tribes and peoples of British New Guinea (officially termed Papua) as to be of assistance in differentiating them into groups larger than tribes. Although the basis of this classification is, and must be, physical, I have not hesitated to make use of evidence derived from the cultural side, but in using this class of evidence I have somewhat generalised, and have smoothed over rather than accentuated trifling differences between tribes belonging to the same ethnic group.

In New Guinea, where a different dialect, or perhaps even language, may be found every twenty or thirty miles, and where neighbouring tribes possessing identical physical characteristics, and having many cultural features in common, may yet present strange divergences, such as completely different languages, it is necessary to find some general collective term to apply to a series of similar tribes who vary only in particular cultural characteristics. To such a collection I apply the term "ethnic group." At present it is often impossible to segregate and define ethnic groups, the existence of which may be suspected, and it may be convenient to unite temporarily two or more ill-defined ethnic groups on account of their substantial agreement in important physical or cultural characteristics, *e.g.*, we may admit that, when we know more of the people whom we call the Massim we shall be able to define among them a larger number of ethnic groups than is at present possible. To such large groups the term "stock" or "congeries" may be applied, and where, as is often the case, a group or stock occupies a well-defined geographical area it may be connoted by the name of this area, thus until our knowledge is substantially increased it is convenient to speak of the Massim stock or congeries and the Namau ethnic group.

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[1] In this paper only two of the great divisions into which the natives of British New Guinea fall are considered. It is hoped that the third division may be discussed on a future occasion.

Further, since the tribes of British New Guinea are usually small, and several may be contained in a single ethnic group, I have not hesitated when convenient to call an ethnic group by the name of one of its constituent tribes, *e.g.*, the Sanana group.

With regard to the sources from which I have drawn the physical and cultural evidence made use of in this paper, the greater part of the former is derived from series of measurements which I made in British New Guinea during 1898 and 1904, which I have already used in the Hunterian Lectures (1906) on "The Physical Anthropology and Ethnology of British New Guinea," of which a substantial abstract appeared in the *Lancet* for March of that year. I have also made use of the measurements taken in New Guinea in 1898 by Dr. A. C. Haddon and of a number of measurements sent to me by Dr. W. M. Strong. The measurements taken by these gentlemen have not yet been published, and I am particularly indebted to them for allowing me to use them, and thus to some extent to anticipate their results.[1]

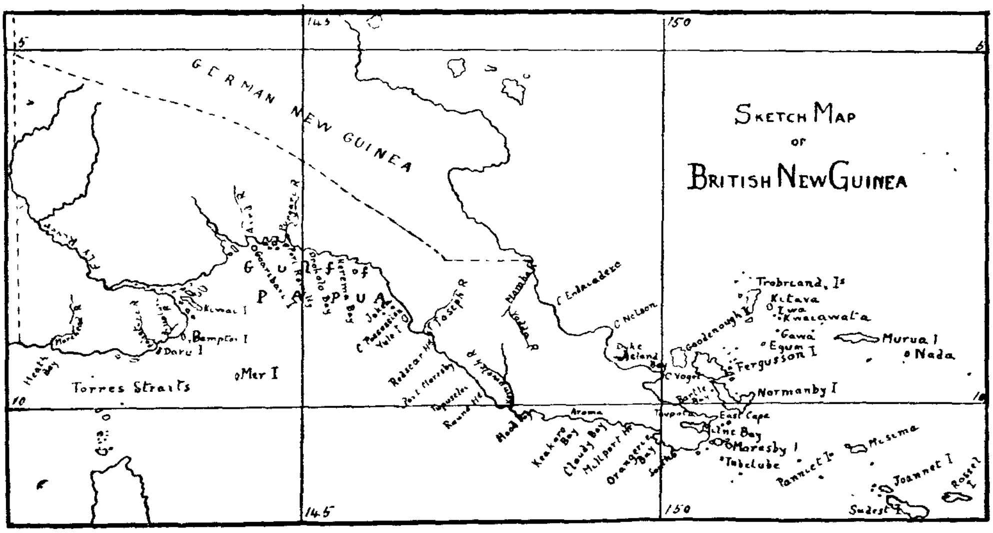

FIG. 1.—SKETCH MAP OF BRITISH NEW GUINEA.

I have freely availed myself of the results published by others, among which I would mention as specially important those of D'Albertis, Haddon, Mantegazza and Regalia, and Sergi. I have also received considerable assistance from Mr. C. A. W. Monckton, with whom I have recently had the advantage of discussing the conditions existing in the Northern Division, while Mr. G. O. Manning has answered a number of questions concerning the neighbourhood of Cape Nelson. But above all, my thanks are due to Captain F. R. Barton, C.M.G., until lately Administrator of the Possession, not only for an immense amount of unpublished information concerning New Guinea, but also for allowing me the free use of his photographs without which I should scarcely have dared to publish this paper. I am also very greatly indebted to Dr. A. C. Haddon and Dr. H. O. Forbes for placing their collection of photographs at my disposal. On the cultural side my chief authorities have been Captain Barton, the Rev. Father Egidi, and Mr. E. L. Giblin, all of whom have allowed me to make free use of their knowledge and experience, and have taken a great deal of trouble to obtain information for me. With regard to published matter dealing with the cultural conditions prevalent in British New Guinea, I have found Dr. Haddon's publications[1] most valuable, while there is a great deal of useful information to be found in the Annual Reports on British New Guinea.

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[1] In the *Lancet* report it was not made clear which of the measurements, from which the figures therein quoted were derived, were taken by Dr. Strong. I also desire to acknowledge my indebtedness to Mr. T. A. Joyce for much assistance in calculating the indices and averages published in the *Lancet* and made use of in this paper.

I may now refer briefly to the importance to be attached to cultural evidence, with which I include linguistics, when endeavouring to approximate or separate groups which present notable points of physical resemblance. I believe that cultural evidence is of great value, especially where one of the groups to be differentiated is presumably immigrant or is believed to be of mixed origin. An actual example will make this clear. There is considerable likeness between the Marshall Bennet Islanders and the Motu of Port Moresby. Both are predominantly mesaticephalic, both are rather short, and in both a comparatively large number of individuals occur with curly or wavy hair. The skin of both people presents various shades of *café-au-lait*, while linguistically both speak Melanesian languages. Probably were our knowledge of these peoples physical only they would be grouped together, but on considering their social and cultural characteristics we find little similarity. In arts and crafts the Marshall Bennet Islanders agree with other islands and communities of the Massim, socially they present the same system of totemism found elsewhere in this area, and differ only in the possession of chiefs who exercise considerable authority. But the arts and crafts of the Motu are in no way closely related to those of the Marshall Bennet Islanders, while socially the clan system of the Motu bears no resemblance whatever to the mother-right of the Marshall Bennets with its characteristic Massim system of linked totems. These differences in social and cultural characters are so striking that, in spite of physical resemblance, they may be considered reasons for completely separating these two peoples. And since, broadly speaking, the culture of the Motu is characteristic of a large number of tribes and that of the Marshall Bennets of the whole Massim area the instance under consideration justifies us in differentiating physically similar congeries on cultural evidence only. In the present instance we can, however, go further and indicate, with a high degree of probability, the origin of the foreign strain responsible for the occurrence of brachycephaly and curly or wavy hair in this part of the Massim area. It is now generally agreed that the Polynesians originally inhabited lands to the west of their present domain, and that their earlier home was in some part of Indonesia, and whatever be our views of the exact route pursued by the Polynesians or the expediency of deriving them from any particular point in Indonesia, there can be no reasonable doubt that one line of their advance eastwards lay north of New Guinea and included certain outlying islands of the Solomons, such as Rennell Island, the population of which is Polynesian.[1]

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[1] I would especially refer to *Studies in the Anthropogeography of British New Guinea* which appeared in the *Geographical Journal* for 1900. This paper was originally projected on a larger scale by its author, who intended it to include a systematic study of the cephalic index and stature of the inhabitants of British New Guinea. Dr. Haddon has most generously allowed me to make use of the notes he prepared for this paper, and more than once has discussed the whole matter with me, so that although I have not knowingly adopted any of his ideas without acknowledging them it is certain that I owe more to his assistance than the acknowledgments I make in the text imply. It must not, however, be assumed that Dr. Haddon shares the responsibility for views I put forward in this paper; quotations taken directly from Dr. Haddon's notes will be recognised by standing between quotation marks without indication of their origin in any publication.

Similar Polynesian islands occur in the New Hebrides, but with these we are not immediately concerned, and Guppy has noted a straight-haired element in both the western and eastern Solomons.[2] From these facts alone it would be legitimate to infer that the foreign element responsible for the curly-haired brachycephalic element in the Marshall Bennets, Trobriands, Murua and the neighbouring islands of the Massim area is due to Polynesian influence.[3] This point of view is immensely strengthened by the recent discovery of a number of stone objects on the northern coast of New Guinea and some of the neighbouring islands which are unlike anything made by any New Guinea people at the present day. These objects, which have been described by Seligmann and Joyce,[4] de Vis,[5] and Barton[6] have for the most part been found at some depth below the surface, but some of them, consisting of well-shaped stone pestles, are in use among the Cape Nelson tribes as charms.[7]

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[1] I hope to return to this subject elsewhere, meanwhile I will only point out the importance from this point of view of Maty Island (in long. 142° 47′ E., only 100 miles from New Guinea and less than two degrees south of the line), inhabited by a non-Melanesian population.

[2] I am aware that in particular instances Polynesian colonies have reached Melanesia within the last few generations. Thus Dr. Keane records that in the Loyalty Islands there is "a mixture of [the] two races, and in Uea especially there is a regular colony of Polynesians who are said to have come from Wallis Island not more than two generations back." *Stanford's Compendium of Geography and Travel* (1879), *Australasia*, p. 484. I do not think that the considerable Polynesian influence that is found in some parts of Melanesia is due to such recent and limited migrations as the instance referred to by Dr. Keane, who believes that the presence of colonies of Polynesians in Melanesia is to be explained by a late westerly drift from that part of Oceania now inhabited by Polynesians. ("On the relations of the Indo-Chinese and Inter-Oceanic Races and Languages," *Journ. Anthrop. Inst.*, ix, 1880.)

[3] I do not wish to suggest that there is anything new in the idea that Polynesian influence is to be detected in this part of Melanesia, but I am not aware that it has been deliberately stated to have influenced these islands before (otherwise than as the result of a westerly drift), or that the facts indicating such influence have been set forth.

[4] "Prehistoric Objects in British New Guinea," in *Anthropological Essays presented to Edward Burnett Tylor*, 1907.

[5] *Annals of the Queensland Museum*, No. LVII, 1907, p. 12.

[6] "New Guinea Stone Pestles," *Man*, 1908, 1.

[7] Barton, *loc. cit.*

It has long been recognised that the inhabitants of New Guinea belong to more than one race, indeed, the difference between the relatively tall, dark-skinned, frizzly-haired inhabitants of Torres Straits, the Fly River and the neighbouring parts of New Guinea on the one hand, and the smaller, lighter coloured peoples of that part of the coast line stretching east of Cape Possession to the archipelagos of the eastern extremity of the Possession, is sufficiently striking to have been commented on by travellers. Speaking of the inhabitants of Redscar Bay, Moresby says:—"We were surprised to see that these people differed totally from the tall, muscular, fierce-looking, naked black Papuans we had left in Torres Straits. These men were more of the Malay type—small, lithe, copper-coloured people, with clean well-cut features, and a pleasing expression of countenance. They wore their own hair, frizzled out mop-fashion, and were slightly tattooed with stars and small figures on the breast and shoulders, as I have never seen the black Papuans."[1]

Although colour and size are, generally speaking, the most obvious characters differentiating the peoples of the southern coast of British New Guinea, living respectively east and west of Cape Possession, there are certain other racial characteristics to which it is necessary to allude, but before doing this the nomenclature to be adopted must be defined. The term Papuan which has hitherto been used to describe the inhabitants of New Guinea generally is unsuitable for this purpose, since even in British New Guinea there are groups of people so little alike that they must be considered to be racially distinct. This was first pointed out by Dr. Haddon, who recognised "a Melanesian migration into New Guinea," and further, "that a single wandering would not account for certain puzzling facts."[2] If a word equivalent to an inhabitant of New Guinea be required the term Papuasian may be employed; in any case the term "Papuan," unless qualified, should be limited to the, geographically, more western Papuasians, a congeries of frizzly-haired and often mop-headed peoples, whose skin colour is some shade of brownish black. The eastern Papuasians—that is, the generally smaller, lighter coloured, frizzly-haired races of the eastern New Guinea Archipelagos and the eastern peninsula of New Guinea—now require a name, and since the true Melanesian element is dominant in them, they may be called Papuo-Melanesians.

This terminology somewhat resembles that suggested by Dr. A. H. Keane (*Ethnology*, 1901, pp. 281 *et seq.*) which he elaborated in *Man Past and Present* (p. 130) as follows:—"Owing to their linguistic, geographical, and to some extent their social and physical differences, it is desirable to treat the Papuans and Melanesians as two distinct though closely related sub-groups, and to restrict the use of the terms Papuan and Melanesian accordingly, while both may be conveniently comprised under the general or collective term Papuasian. Here, therefore, by *Papuans* will be understood the true aborigines of New Guinea with its eastern Louisiade dependency, and in the west many of the Malaysian islands as far as Flores inclusive, where the black element and Malay speech predominate; by Melanesians, the natives of Melanesia as commonly understood, that is, the 'Bismarck' Archipelago (New Britain, New Ireland, and Duke of York); the Solomon Islands; Santa Cruz; the Hebrides, New Caledonia, Loyalty and Fiji, where the black element and Malayo-Polynesian speech prevail almost exclusively. Papuasia will thus comprise the insular world from Flores to New Caledonia, forming geographically a northern and north-eastern extension of the Australian Continent."

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[1] *Discoveries in New Guinea*, p. 139.

[2] *The Decorative Art of British New Guinea*, 1894, p. 267.

It will be seen that my use of the term Papuasian differs from Dr. Keane's; on the other hand it will be obvious that the term Papuan is used in the same sense directly it is sufficiently realised that men constituting "the black element" and using a "non-Malay speech" do not occur, as far as we at present know, in the eastern archipelagos of New Guinea or indeed on the eastern portion of the mainland.

Physically the Papuan is usually taller, and more consistently dolichocephalic than the Papuo-Melanesian; he is always darker, his usual colour being a shade of dark brown; his head is high and his face is, as a rule, long, with prominent brow-ridges, above which his rather flat forehead usually slopes backwards. The Papuo-Melanesian head is usually less high and the brow ridges less prominent, while the forehead is commonly rounded and not retreating. The difference in cranial form is well seen in the two skulls reproduced in Fig. 1, which shows that the Papuan skull is more massive than the Papuo-Melanesian, with stronger processes and more marked muscular impressions. The Papuan nose is longer and stouter, and is often so arched as to present the outline known as "Jewish." The character of its bridge varies, but typically the nostrils are broad and the tip of the nose is often hooked downwards. In the Papuo-Melanesian the nose is, as a rule, smaller, and the truly Papuan type of hooked nose does not, as far as my observations extend, occur.

SKULL FROM ERUB (R.C.S. NO. 1195B). SKULL FROM NUAKATA (R.C.S. NO. 1177).

FIG. 2.

Fig. 2 shows two skulls in the Museum of the Royal College of Surgeons, and illustrates some of the cranial differences between Papuans and Papuo-Melanesians. The Papuan skull, No. 1195B of the Royal College of Surgeons Collection, is that of a man of Erub, one of the eastern islands of Torres Straits; while the Papuo-

Melanesian skull No. 1177 is that of a Massim from Nuakata (Lydia Island), in the neighbourhood of East Cape.

Both Papuans and Papuo-Melanesians have frizzly hair, but while this is universal among Papuans, curly and even wavy hair occurs among all Papuo-Melanesians with whom we are acquainted. Such hair is especially common among the people of the Nara district, occurring especially among women, in whom the wavy quality may be so slight that the hair appears almost straight.

Plate XVII, Fig. 1, is a photograph taken by Captain Barton of a Nara man, and during a short visit to Nara I was able to satisfy myself that the condition shown in this photograph was by no means unusual.[1] Again, although hair as straight as this scarcely occurs elsewhere in that portion of the Possession with which I am acquainted, Captain Barton informs me that curly and wavy hair is common in Aroma villages some 80 miles to the east of Port Moresby. This agrees well with my own slight knowledge of these natives, derived from the crews of trading canoes I have met.

All Papuo-Melanesians speak languages of the Melanesian type which are divisible into groups, the constituent languages of each of which contain numbers of common words, all related to the stock language of Oceania. With the Papuan languages it is otherwise, *qua* vocabulary they present a number of apparently unrelated stock languages, while of their grammar it can only be said that though a number of them conform to certain rules it is clear that the grammar of none of them presents Melanesian characters.[2] A great difference is also present in the system of enumeration of the two races. While the Papuo-Melanesian counts easily by the quinary, decimal or vigesimal system, the Papuan has only two numerals, one and two, and counts with certainty only up to five or six by combining these.

Before considering the various ethnic groups into which the Papuans are divided, I must point out the geographical distribution of the Papuo-Melanesians and show to what extent they have been modified by contact with the Papuans.

Ignoring Rossel Island at the eastern extremity of the Louisiade Archipelago on account of our very slight knowledge thereof, we find that tribes presenting physical and cultural characteristics differing from those of the Papuans are found throughout the archipelagos of the east and along the south coast as far west as Cape Possession. On the north coast they extend as far west as the neighbourhood of Cape Nelson. Although it is impossible to state their distribution inland, the records of exploration, and especially the recent journeys of Captain F. R. Barton and Mr. C. A. W. Monckton which I have had the opportunity of discussing with these gentlemen, suggest that they do not reach further west than the 146th parallel of longitude, while it may be that the 147th parallel more nearly marks their limits. Further, since it is certain that the greater part of the courses of the northern rivers, the Gira, Mamba, Opi, Kumusi, and Musa, run through country inhabited by Papuans, the majority, if not all, the country north of the main range and west of the 149th parallel lies outside the greatest possible extent of the Melanesian area. For reasons which will presently be clear it will be convenient, and broadly speaking true, to consider the whole of the area not inhabited by typical Papuans as Melanesian, though, as will be shown later, a great part of this area is inhabited by tribes who speak non-Melanesian languages, in many of whom there is every reason to believe there is a considerable infusion of Papuan blood.[1] Accepting this large area as Melanesian the slightest acquaintance with its manufactures, decorative art or social systems at once suggests a twofold origin for its inhabitants. There have in fact been two great invasions of Papuo-Melanesians into New Guinea, that of the Massim[2] and that of the other Papuo-Melanesian people, who because they are found to the west of the Massim may be termed the Western Papuo-Melanesians.

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[1] A profile photograph of a Nara woman with almost straight hair will be found on p. 233 of the *Geographical Journal* for 1906.

[2] For this information I am indebted to Mr. S. H. Ray.

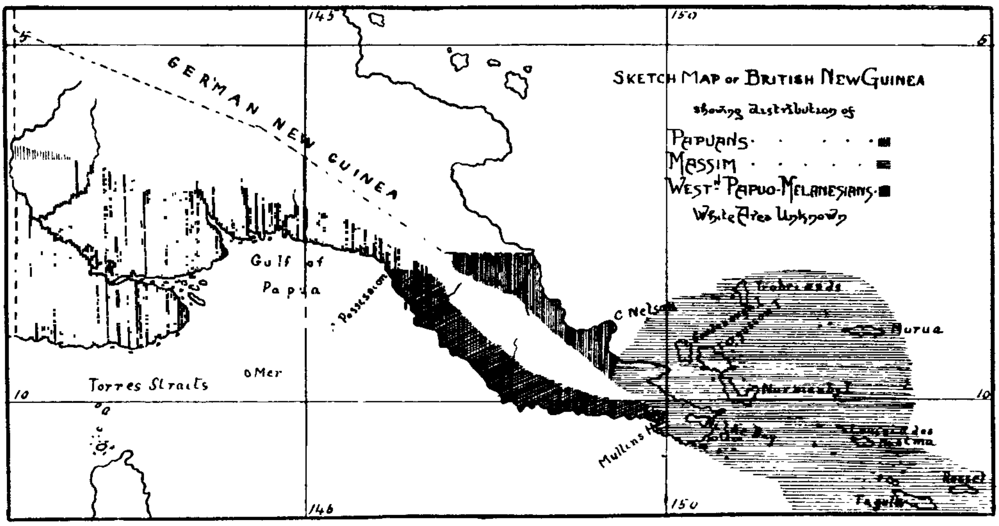

FIG. 3.—SKETCH MAP SHOWING DISTRIBUTION OF PAPUANS AND PAPUO-MELANESIANS.

Plate XVI is a photograph of two men of Port Moresby. One of these men presents those qualities of build and feature which I regard as typical of one great division of the Papuo-Melanesians, the other, a somewhat taller man, seems to me to present certain Papuan features, a longer, narrower face, a more beak-like nose and stronger limbs, which contrast with the softer, rounder, and less harsh features of the immigrant Melanesians.

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[1] These "tribes who speak non-Melanesian languages and in whom there is a . . . . considerable infusion of Papuan blood" include those who in the *Lancet* abstract are called Eastern Papuans, a name which I now regard as unsuitable.

[2] The area inhabited by the Massim corresponds closely with that defined as Massim by Dr. A. C. Haddon, who extends E. T. Hamy's term to include the coastal inhabitants of the mainland and the island groups east of the 150th parallel of longitude, *cf. The Decorative Art of British New Guinea*, p. 184, where reference is made to Hamy's history of the term given in his paper, "Étude sur les Papouas de la Mer D'Entercasteaux." *Rev. d'Ethnogr.*, t. vii, 1888, pp. 503–519.

Port Moresby is situated so far east of Cape Possession, the present coastal limit of the Papuan tribes, that recent contact metamorphosis can safely be excluded, and we thus reach the conclusion that the immigrant Melanesians are superposed upon a former Papuan population. Once this idea is formulated a large number of facts appear to support it. Thus the physical difference between the two men shown in Plate XVI, and living at Port Moresby sixty miles east of Cape Possession, can equally be found among the Sinaugolo occupying the grassy uplands inland from the coast sixty miles east of Port Moresby, while the people, who speak a Melanesian language, scarcely differ in physical and cultural characteristics from the Garia, their neighbours, with whom they have long lived on the most friendly terms, but who speak a Papuan language. Again, many of the tribes who must be classed as immigrant Melanesians say that they have come from the east, while the Koita, a tribe of Papuo-Melanesians who speak a Papuan language, though they do not agree to this, state that their oldest songs which they no longer understand came to them from the east.

It appears then that there is every reason to believe that the Melanesian immigrants came from the east, and that arriving upon the coast they formed settlements and gradually drove out or assimilated a pre-existing Papuan population. It is not necessary to believe that this population (which may well have represented early and but incompletely differentiated types of the Oceanic negro or Proto-Papuan) was everywhere homogeneous or presented a solid front to the invaders; indeed the great differences existing between tribes, all of which, in the present state of our knowledge, we must class as Papuan, suggest that the Proto-Papuans presented no widely spread homogeneous type. Nor need we believe that New Guinea was densely populated in those early days, since even at the present time habitable islands perfectly capable of sustaining a trading population are uninhabited or have but recently become inhabited. The invaders would be desperate men, possessed of superior sea-going craft, and therefore of superior mobility, holding the command of the sea and so able to raid the coasts as they pleased.[1]

In this connection it is not without significance that, on the southern coast of British New Guinea, the territory of the immigrant Melanesian tribes is limited to that part of the coast marked by the absence of the deltas of big rivers and the huge mangrove swamps that are associated with them, that is to say, the immigrants were only able to establish themselves in comparatively open country that did not offer the facilities for resistance and evasion on the part of the aborigines that a mangrove swamp undoubtedly possesses. The only fact which it seems must have been greatly against the process of invasion and assimilation as here sketched out is that the Papuan tribes of the southern coast of British New Guinea may have possessed bows and arrows, which would apparently render them extremely dangerous opponents to peoples armed with no missile weapons, except perhaps slings, arriving in comparatively small numbers in canoes.

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[1] The *waga*, the large built up canoes of the south-eastern extremity of British New Guinea and the neighbouring archipelagos, are the finest sea-going craft in the Possession, while the sailing outrigger canoes of the Melanesian tribes of the Central Division, and their large sea-going rafts (*lakatoi*), are vastly superior to the unstable dug-outs of the Papuan tribes of the Papuan Gulf propelled by paddles and lacking both sails and outriggers. This does not, however, take into consideration the excellently built canoes with double outriggers which occur further west at the mouth of the Fly River; it must, however, be remembered that proceeding west these canoes speedily give place to the paddled dug-out with no outrigger (Moorhead and Bensbach Rivers), and that there is a curious and unexplained round-headed element in the population at the mouth of the Fly River (*cf.* p. 262). This brachycephaly appears to be even more marked at the mouth of the Aird River, somewhat to the east of the Fly River (*cf.* p. 258).

As was first pointed out by Dr. Haddon,[1] two main divisions of the people whom I call Papuo-Melanesians must be distinguished; these, besides differing from each other in physical characteristics, differ culturally in many matters, though agreeing together in the general absence of long and rigid seclusion ceremonies for boys at puberty, which, in British New Guinea, seems a Papuan characteristic, and is certainly found among the Papuan tribes from Cape Possession to the Netherlands boundary. One of these great divisions of the Melanesians may conveniently be styled the Massim. The other division, which may be spoken of as the western immigrant division or the western Papuo-Melanesians, extends from Cape Possession eastwards at least to Aroma, and its influence may perhaps reach nearly as far as the western side of Mullins harbour. It is difficult to summarise the physical and cultural peculiarities of the peoples of this division, though they may be defined to some extent by the absence of certain peculiarities almost always present among the Massim. It may, however, be noted that in nearly every tribe there are men whose physiognomy approaches the Papuan type, as is the case in one of the men shown in Plate XVI. By this quality this division seems to be differentiated from the Massim who, as far as my experience goes, do not present this appearance.

PAPUANS.

It will be convenient to begin our discussion of the western Papuasians, or Papuans proper, with the peoples of the Papuan Gulf, of whom the Namau group will be first considered.

The Papuan Gulf lies to the west of Cape Possession, and "Gulf District" is the usually recognised term for the greater part of the shore. In a strict geographical sense it would seem that the eastern shore of the Fly River should form the western boundary of the Gulf. But custom and convenience are both against this use, the vast delta of the Fly has always been considered as a separate province, and it becomes necessary to fix some more or less arbitrary western boundary to the Gulf District. It is obviously convenient that this boundary, since it is geographically unreal, should, as far as possible, mark the eastward limit of the culture characteristic of the Fly District, and in the present state of our knowledge a line drawn somewhat to the west of the Bamu River would appear to fulfil this condition. Remembering then that the western limit of the Gulf District is geographically unreal and may later prove to be ethnographically unsound, the Gulf, when spoken of in this paper, will be held to include the coast line stretching from Cape Possession (Waimatuma) in the east to the western side of the Bamu estuary in the west. So defined the mouth of the Purari River forms roughly the centre of the Gulf District, and since the Koriki tribes, the most homogeneous Gulf people with whom we are yet acquainted, cluster round the mouth of the Purari, it becomes convenient to take the neighbourhood of this river as a starting point in describing the Gulf population.

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[1] *Decorative Art*, *loc. cit.*, and again in *Studies, etc.* ,pp. 417 and 437.

THE NAMAU GROUP.

The district round the mouth of the Purari has been called "Namau," and this term, though geographical in origin and connoting an area with no accurately defined western boundary, may conveniently be applied to the Purari tribes, since they and the land they inhabit are alike known by this name to the Motu of Port Moresby, who visit some of their villages to obtain sago. The Namau, of whom the Koriki and Iari are the best known tribes, form one of the most homogeneous groups in British New Guinea. Owing to their cannibalistic habits, their inveterate head-hunting propensities, and the fact that they carefully prepared the skulls of their enemies, many of their skulls have come to Europe and many museums possess specimens which have been carefully measured and described.[1] But until recently it has not been clear from which part of New Guinea the skulls referred to were derived, though the community of style and often the identity of the designs incised or scratched on the frontal bone made it obvious that all these skulls belonged to one group.[2] Fig. 4 represents a male skull of this group; the pattern, which consists of a single band across the frontal bone, does not show. Fig. 5 is another of these skulls, the face of

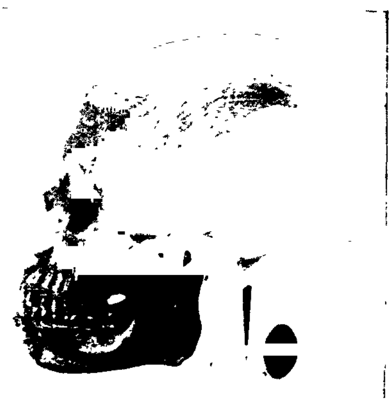
FIG. 4.—SKULL FROM THE PURARI RIVER.

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[1] Mention need only be made of the papers by Sir W. Turner, "Decorated and Sculptured Skulls from New Guinea," *Proceedings of the Royal Society of Edinburgh*, vol. xxii; and of Dr. George A. Dorsey, "Observations on a Collection of Papuan Crania," *Field Columbia Museum Publications, Anthrop. Series*, vol. ii.

[2] I am indebted to the Rev. J. H. Holmes for the following information concerning the origin and purpose of the patterns carved on the skulls. A man who kills an enemy receives the latter's skull at the cannibal feast at which the body is eaten; he keeps the skull until he becomes too old or infirm to join in further warfare; when this time arrives he and other old men of his generation carve the skulls, which they have meanwhile kept in their club-house, each individual carving that design on the forehead of his skulls which is peculiar to his own

which has been modelled in resin (?), a seed being inserted in the mass of resin which fills each orbit to represent the pupil of the eye; the teeth, which are not visible in the figure, are formed by shells. As far as I can discover, the practice of moulding a face on the skulls is not common, but two out of a dozen skulls given me by the Rev. J. Holmes have been treated in this way. The majority of the skulls have been prepared in the manner shown in Fig. 4, the places of missing teeth being supplied by small pegs of wood. The skulls of the people of this group are strongly dolichocephalic, the average for Dr. Dorsey's specimens being 72, while that of the series in the museum of the Royal College of Surgeons is reduced to 68 by the presence of one skull with the especially low index of 62·6. All these skulls are prognathous, micro- or mesaticephalic and mesorhine. Dr. W. M. Strong, who measured twenty-two men, found their average height to be just under 1·600 m. (63 inches), their average cephalic index 72 (maximum 77, minimum 68), and their average nasal index 83. Their hair was invariably frizzly and their skin rather dark. Plate XVII, Fig. 2, shows a small group of Purari River men.

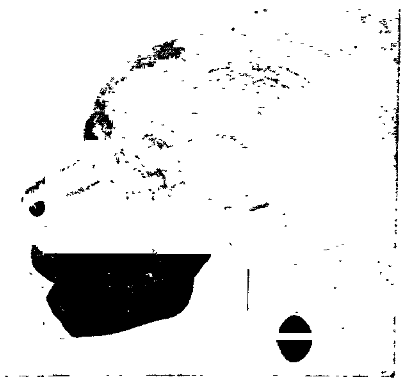

FIG. 5.—SKULL FROM PURARI RIVER WITH FACE MODELLED IN RESIN.

THE GOARIBARI GROUP.

The deltas of a number of big rivers and smaller streams constitute an area of mud and swamp extending for many miles to the west of the mouths of the Purari. The chief of these rivers are the Kapaina, the Kikori, the Omate (Aird River), the Turama and the Bamu, and for convenience this area may be called provisionally the Riverine portion of the Gulf. Of the inhabitants of this area but little is known, and that little is limited to the natives of the Aird River delta and the country west of it. The slightly known culture of the Riverine area presents

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family, or more probably clan. This carving is generally done while the younger men of the tribe are away on the war-path; if when they return it is found that they have been successful the skulls are put away, but if success has not attended them, then the old men make it known by a chanting and a beating of drums that they are about to make a presentation of skulls to the young warriors. The latter at once set to work to prepare a feast for the old men. At a given stage in the feast the old men present the skulls to the warriors, assuring them that in future they will be braver and consequently more successful than formerly, as they will have to help them the bravery of the individual whose skull they now receive. It is alleged that a similar custom is observed by the non-cannibal Elema tribes to the east of the Purari, but here, for the human skull is substituted the skull, lower jaw, or tusk of the wild boar. Mr. Holmes sent me this information some time before writing his paper "Notes on the Religious Ideas of the Elema Tribe of the Papuan Gulf" (*Journ. Anthrop. Inst.*, 1902), in which he says: "The wild boar's tusk, the acquisition of which is greatly desired as a mark of bravery, is not so much coveted as a personal adornment, as for the courage, ferocity, and daring which it is supposed to contain and to be capable of imparting to anyone who secures it."

affinities both with that of the Fly River and the Namau tribes of the Papuan Gulf. On the physical side all that is known is that on the island of Goaribari at the mouth of the Aird River there exists a highly brachycephalic population which perhaps extends to the Turama River. In the absence of any knowledge of the tribal names of these brachycephals we may provisionally distinguish the group to which they belong as the Goaribari group. The cephalic index of five Goaribari men gave the high average of 87, while six skulls from the Aird River delta gave an average of just over 80, and varied only between 80 and 81·5. The average height of the five Goaribari men was 1·611 m., or about 63½ inches. Plate XVII, Fig. 3, represents a group of these natives. Passing westwards it appears that the brachycephalic element is also present at the mouth of the Bamu River, for Mr. R. H. Spittal[1] describes a skull with a cranial index of 87·6. On the other hand, the cephalic indices of eight men measured by Dr. Strong varied from 72 to 78, with an average index of 76, and one of Mr. Spittal's skulls has a cranial index of only 70·5.

THE ELEMA GROUP.

That portion of the Gulf east of the Purari delta is, as a whole, characterised by the taller stature of its inhabitants and their higher cephalic index. This area includes the peoples of Orokolo, Toaripi, Jokea and Lese. Probably these belong essentially to one group and may be classed together under the name Elema, the term by which they and their country are known to the Motu.[2] The average cephalic index of a number of Elema natives from the above mentioned villages is 77, while their average height varies from 1·667 m. (65¾ inches) for Jokea and Lese at the eastern extremity of the Gulf to 1·702 m. (67 inches) for Toaripi. Twelve Orokolo men measured by the Rev. J. Holmes gave an average of 67½ inches and varied from 63 to 71 inches, the latter an unusual height for a Papuan. Broadly speaking, the men of the Elema tribes are the tallest, stoutest and most vigorous of the natives of the south-eastern coast, but in spite of a certain homogeneity in these respects, throughout the district there is considerable variation in special physical characteristics. Thus while the face is usually long as in Plate XVIII, some quite broad faces occur and the character of the nose varies greatly, presenting two well-marked types—(1) broad and short, and (2) long and narrow, though both forms occur in individuals of the same settlement. The nose may be strongly hooked so that the tip actually overhangs the base of the nostrils, though this form of nose may perhaps be intensified by the wearing of nose ornaments, it could scarcely be produced by this, especially in so young a man as the one shown in Plate XVIII, Fig. 2. Unfortunately, I have but few nasal measurements from this area, but in five men the nasal index varied from 70 to 90.[1]

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[1] "Observations on Fourteen New Guinea Skulls," *Proceedings of the Anatomical and Anthropological Society of the University of Aberdeen*, 1904–1906.

[2] The Rev. J. Holmes, "Notes on the Elema Tribes of the Papuan Gulf," *Journ. Anthrop. Inst.*, states that "The name 'Elema' is probably a Motuan rendering of the name 'Hereva,' the name of one of the villages of the Moreaipi group, or it may be an adaptation of the name of a great chief, 'Hereva-ape,' who long ago ruled the Moreaipi tribe with a firm hand." Mr. Holmes divides the Elema tribes into two great groups. "Those tribes whose tribal names end in 'ipi' form one group; the other group includes all those tribes whose tribal names end in 'ra,' 'u,' 'au.' Of the former, or 'ipi' group, there are six tribes, all living on the c a t observingthe same customs and claiming a common ancestry. Of the latter, the 'a,' 'u,' 'au,' and 'ra' group, the 'ra' and 'u' tribes are represented by one tribe of each on the coast of Elema, and two 'au' tribes in the immediate vicinity of the coast of this district."

The tribes of both groups state that they migrated to the coast from inland, and this is confirmed by the results of exploration, for Mr. Holmes has found that though each of the Haura communities "located between the east bank of the Vailala River and the spur of the Albert Range, known as the 'Cupola' . . . is small . . . it is constantly being fed by a chain of villages, probably extending from the coast to the mountain range, at the head of the Vailala River. The writer of this paper has explored the upper waters of the Vailala River, much higher up than any other European has yet reached, and has found representatives of the Haura tribe in the neighbourhood of the German boundary." It does not, however, appear that these two groups of tribes should be dissociated on cultural or physical grounds.

With the exception of the Elema tribes, extraordinarily little is known of the culture of the peoples of the Papuan Gulf. Of the Namau tribes and of those of the Riverine portion of the Gulf we know that their language is distinct from that of the Elema tribes, but that, as among the latter, club-houses and initiation ceremonies are of prime importance. Among the Namau, who are cannibals, the decorated skulls of their victims, together with those of pigs and crocodiles, are kept in their club-houses (perhaps in specially closed compartments of these), in association with religious objects which, as pointed out by Dr. Haddon,[2] are doubtless bull-roarer derivatives (Plate XIX, Fig. 1). At Goaribari, in the Aird delta, bull-roarer derivatives, some of which, though much enlarged, still retain their shape and proportions, are placed on each side of the entrance of certain houses (not obviously club-houses) and the skulls of enemies are said to be attached by long cane loops to the leg-like uprights of certain wooden figures of the kind shown in Fig. 6, which are placed amidst them.

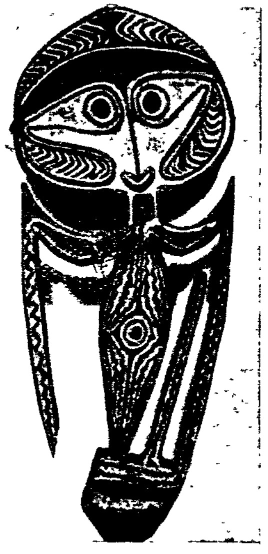

FIG. 6.—WOODEN FIGURE TO WHICH SKULLS ARE ATTACHED (AIRD RIVER DELTA).

The decorative art of the Elema and Namau tribes has much in common; further, Namau art (and therefore, though more remotely, the art of the Elema tribes) has affinities with that of the Aird River delta and perhaps even with that of the Fly. The Elema tribes are not cannibals, they have a well-organised system of chieftainship and club-houses play a most important part in the social fabric. This is based on a clan organisation, embedded in which is the remains of a totemic system, each clan having a number of *ualare*

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[1] The nasal index of a male skull said to come from Orokolo is given by Mr. Spittal (*op. cit.*) as 50; this skull has a cranial index of 74·4.

[2] *Decorative Art*, pp. 102, 103.

(totems[1]). Besides this Mr. Holmes has shown that among the Elema tribes reverence is paid to a number of deified ancestors, but so little is known concerning the religious beliefs of the inhabitants of the Papuan Gulf that I give two photographs of gods from the Elema district; the first of which, shown in Plate XIX, Fig. 2, also represents a portion of a club-house at Vailala. That the two figures represent males is obvious from the perineal bandage; some, at least, of the objects in front of the figures may be assumed to be offerings, since they include betel leaves and a coconut, while the shell, the carved belts and weapons may also be offerings. The carved and painted wooden oval attached to the post is of particular interest, since, although it has long been known that these bull-roarer derivatives were associated with the religious beliefs of the Namau and Elema tribes, the photograph shows that the conventionalised human forms carved and painted on these are adaptations of the wooden figures of the gods, the circular "ornament" pendant from the chin of the face carved on the bull-roarer derivative representing the umbilicus of the god, while it may be suggested that the group of chevrons so common along the sides of these bull-roarer derivatives represent the legs and arms of the figure of the god. With the figures shown in this photograph we may compare the figure of a goddess Ukaipu (Plate XIX, Fig. 3), from Orokolo, now in the Horniman Museum, for a print of which I am indebted to the courtesy of Dr. H. S. Harrison, who has also given me the following information collected by a Rarotongan teacher of the London Mission Society. Ivo and Ukaipu were the ancestors of the family of Apoveo who is the chief of Orokolo. Ivo was the name of the first man of that family and his name signifies this, viz.: The earth around the stem of the Wild Ginger Plant. Ivo grew up out of the earth around the stem of the plant called Hoa by the people of Orokolo. When he came up out of the Earth he sat all day by the stem of the Wild Ginger Plant, and spoke to himself saying, "The Earth is my Parent, and the shoots of this Wild Ginger Plant are my relations." He was alone for a long time; and he had no pleasure in his loneliness. Then he said, "Lo, my parent the Earth will cause a wife for me to grow up out of the stem of this Wild Ginger Plant." When he slept that night he knew that the stem of the

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[1] "A native's explanation why a certain mammal, bird or fish is regarded sacred by him as his particular *ualare* is, that this animal was regarded as sacred by his original ancestor. . . For the present we have to be content with the statement that a certain animal was regarded as sacred by the original ancestor; he never injured or killed it, never ate it as food when killed by anyone else, and because it was held sacred by him, his posterity for all time must also regard it as sacred."

"If a man accidentally kills a member of the family of his *ualare*, he sets aside a period for mourning, during which period he fasts from the principal kind of food, eating only enough to keep himself from absolute starvation; he also observes many of the customs of mourning as if he had lost a relative. If on the other hand he kills a member of his *ualare* family in a fit of anger or for any other reason that is not justifiable, as soon as he recognises what he has done he gives himself over to violent grief, abstains from all kinds of food, isolates himself from hi relatives, and ultimately dies of starvation.' "Notes on the Religious Ideas of the Elema Tribe of the Papuan Gulf," *Journ. Anthrop. Inst.*, vol. xxxii, 1902.

Wild Ginger Plant had become a wife for him. He rose up and looked at the stem of the Wild Ginger Plant, but there was no wife there for him. Then he slept again, and saw in his sleep, that the stem of the Wild Ginger Plant was a woman—at which he marvelled greatly for the rest of the night and until morning dawned. But when he arose in the morning and looked, the Wild Ginger Plant was there and nothing else. Then Ivo stood by the Wild Ginger Plant and said to his parent the Earth, "Lo, I saw a woman here last night; but this which I took to be a woman is only the stem of the Wild Ginger Plant." At this he was sad and again sought for his wife, and found her in a hole in the Wild Ginger Plant. Then he said to his wife, "You have come out of the stem of the Wild Ginger; my parent the Earth made you for me." Then Ivo called his wife Ukaipu, which means "the life of the serpent, the life of the lizard." Then Ivo and Ukaipu his wife lived together, and the name of their first-born son was Haiapo, and the name of his youngest brother was Leleva. The significance of the name Haiapo is "the God of the Belly," that of the name Leleva, "the Consecrated Feast." The elder brother was a maker of images, and the younger brother carried the feasts to the gods.

The people of Orokolo are descended from these brothers. The first-born son of Leleva was named Apoveo, and his younger brother was named Paha. The name of the eldest son of Paha was Hihiri, and from Hihiri are descended a portion of the people of Vailala. Hihiri had two sons; the elder was named Raveape, and the younger was named Apoveo. Raveape had two sons, the elder was named Peke, and the younger Apoveo, and this man was the chief of Orokolo in 1879.[1]

Passing westwards to the vast delta of the Fly we reach a most puzzling area of which we have not yet sufficient knowledge to allow us to classify its inhabitants. Certain facts are however clear; the first of these is that although there is a strong dolichocephalic element in the inhabitants of the islands of the estuary of the Fly, brachycephals also occur. The second fact which is definitely known is that as far as the coastal population is concerned the cultural peculiarities which distinguish the people of the mouth of the Fly cease somewhat abruptly about the neighbourhood of Strachan Island. The remains of the inhabitants of Strachan Island and the Mai Kussa and Wasi Kussa Rivers with the inhabitants of the Bensbach and Morehead Rivers clearly form a group with common cultural characters which to avoid confusion may be called the Sanana group, Sanana being the name of an extinct or almost extinct tribe on the Upper Morehead. It must be remembered that the whole of this district has been depopulated by Tugeri raiders, whole tribes having been killed out.

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[1] Although this legend is but a variant of that given by Mr. Holmes I have quoted it here since it accounts directly for the origin of Orokolo and Vailala, and shows how closely the chiefs of these communities are related to their ancestor-gods.

THE DAUDAI GROUP.

Daudai, the area of marshland lying between the Fly estuary and the sea, is inhabited by a number of tribes of whose culture we know very little except that some of them, like the natives of the Fly River estuary, live in long houses. Among these tribes are the Masingara, a group of whom, taken by Dr. Haddon about 1888, is shown in Plate XX, Fig. 1. This tribe, the members of which are of moderate height, 1·616 m. (63½ inches), and invariably have frizzly hair, appear to be one of the most homogeneous groups of dolichocephals yet met with in New Guinea, since the cephalic index of 11 males measured by Dr. Strong varies from 68 to 74, with an average of 71. Confirmatory evidence of the predominant dolichocephaly of this group is offered by 14 crania collected by Dr. Haddon in 1888 from Mawatta which he believes "were trophies from the Masingara. The average index of both sexes is 71·2, the range being from 63·9 to 77·1, the median is 70."

Mantegazza and Regalia[1] record two male skulls from the Baduhuberi with indices of 66·1 and 75·8.

D'Albertis states that this is a "bush" tribe to the west of Mawatta which Dr. Haddon equates with the Badu who, according to official information, live 8 miles to the west of Mawatta. Some, if not all, the tribes of this group drink kava, "one man chewing the root for another man."[2]

THE KIWAI GROUP.

The natives of the Fly estuary may provisionally be called the Kiwai group, but it must be understood that we do not know either the eastern or the up-river limit of this group, though passing westwards along the coast it extends at least as far as Mawatta at the mouth of the Binaturi River, and Dr. Haddon has measured a Parama (Bampton Island) "man with an index of 77·2 and a Mawatta man with one of 80."[3] Further, the same authority finds that "Three normal adult skulls from the Oriomo River (to the west of the mouth of the Fly) have the following indices 77·1, 78·7, 78·7, the last being a female." The men of this group are stoutly built and moderately tall, they are of rather an active disposition and were the first men to join the armed Native Constabulary in any numbers. The average stature of 19 men of Kiwai Island measured by Chalmers was 1·656 m. (65¼ inches) with a minimum of 1·581 m. (62¼ inches) and a maximum of 1·731 m., *i.e.*, just over 68 inches. Only two men were below 1·600 m. (63 inches). The average cephalic index of the same 19 men was 83, but this includes one index of 92·1 which should be rejected. Excluding this the indices run from 75·1 to 87·8. These measurements afford ample proof of the existence of the brachycephalic element at the mouth of the Fly, independent evidence of which is furnished by the skulls collected by D'Albertis, who found that the brachycephalic element occurred also on Canoe Island, the upper limit of the Fly delta. Above this—*i.e.*, in the interior of the Fly River district—the 13 male and 7 female skulls which he collected varied from 67·7 to 71·1, but the pickled head brought back by him had a cephalic index of 84.[1]

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[1] *Archivio per l'Antrop. e la etnol.*, xi, 1881.

[2] *Decorative Art*, p. 11.

[3] *Studies etc.*, p. 414.

The brachycephalic element is also found in Torres Straits; it has however but slightly affected the Eastern Islanders (Mer, Erub, etc.), while it is very obvious in the Western Islanders (Mabuiag, Saibai, Badu, etc.). I am indebted to Dr. Haddon for the following unpublished information showing this; 33 Mabuiag and Badu men have an average cephalic index of 81·1 (minimum 74·7), (maximum 86·5). "There is little doubt that the Mabuiag and Badu men are good examples of the Western Islanders of Torres Straits . . . . as the median of the 33 is 81 we may accept that index as final." With regard to the Eastern Islanders the prevalent dolichocephaly is best shown by a series of 21 male crania from Murray Island measured by Dr. Haddon. These give an average of 71·8, with a minimum of 65·4 and a maximum of 77·9.[2]

THE SANANA GROUP.

Plate XX, Fig. 2, for which I am indebted to Mr. Arthur Jewell, shows a group of men of the Toro tribe living on the Bensbach River, which at its mouth forms the boundary between British and Netherlands New Guinea. Besides representatives of the Toro tribe a number of men were seen and measured at Bugi near the mouth of the Mai Kussa River. These people consisted of the remains of a number of tribes from the neighbourhood of Bugi and Strachan Island who had escaped death at the hands of Tugeri raiders from over the Netherlands border. There is a very slight amount of brachycephaly in both the Toro and the remnants of the tribes settled at Bugi; ignoring this the natives settled at Bugi may be said to be predominantly mesaticephalic, the Toro to be dolichocephalic. The latter are considerably taller (1·691 m., *i.e.*, 66½ inches) than the Bugi (1·640 m., *i.e.*, 64½ inches), though the members of both the Bugi and Toro show considerable individual variation in stature and feature. The Toro are spare and moderately tall, with thin legs and often thin bony faces, projecting zygomata and marked supra-orbital ridges. The average cephalic index of 21 men works out at 74, but this is perhaps too high, since it takes into consideration one abnormally high index of 86. Facially the Toro and Bugi seem to vary more than most other New Guinea tribes, some of them closely resembling certain of the less intelligent types of European faces. The hair of all is frizzly; generally speaking the Toro appear long-faced, but broad faces also occur. Their noses are generally long and often coarse, with moderately broad bridges and sometimes with coarse fleshy tips which are not, however, hooked. One of their favourite attitudes is to stand on one leg, the sole of the foot of the other being applied just above the knee of the leg which supports the weight of the body; in fact, they assume the well-known attitude of the Dinkas of the Nile swamps.

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[1] The crania collected by d'Albertis have been studied by Mantegazza and Regalia, from whose paper these figures are taken.

[2] It will be noted that the skull shown in Fig. 2 (p. 251) is one of the most brachycephalic of those of the Eastern Islanders of Torres Straits.

So far we have been dealing with the Papuan inhabitants of the south coast of the Possession or of the near hinterland of this coast. We now pass to a far less known area, the northern coastline and its hinterland, which is inhabited by Papuan tribes from the Anglo-German boundary eastwards at least as far as Cape Nelson. On the coast the mountain *massif* which constitutes the Cape Nelson peninsula defines the eastern extremity of the territory of the true Papuans, but scant as is our knowledge there is every reason to believe that inland they extend eastwards, fusing more and more with the Papuo-Melanesians, so that ultimately a stage is reached in which we find a people who in culture and in physical characters are Papuo-Melanesians though speaking a Papuan language. Such tribes as these will be considered later among the Papuo-Melanesians; at present I shall consider only tribes that in the light of our present knowledge must be described as Papuan.

THE BINANDERE GROUP.

The coast line from the German boundary to Porlock Bay to the west of Cape Nelson is inhabited by a people typically represented by the inhabitants of the lower Mamba River, all speaking dialects of a common language called *binandere* by Mr. C. A. W. Monckton. I propose to extend the use of this name so as to include the many tribes speaking these dialects. Physically the Binandere are a particularly sturdy set of people. I have not visited their country, but the average of 14 men, all members of the armed Native Constabulary and derived from villages scattered all over the country, was 1·658 m. (nearly 65¼ inches), while four were over 1·700 m. (nearly 67 inches), the tallest being 1·740 m. (over 68¼ inches). They are predominantly mesaticephalic with a tendency to brachycephaly (average 78). In general appearance they recall some of the Elema natives of the Papuan Gulf; but their mouths are perhaps larger, and the comparatively delicate nose found in some Gulf men does not, as far as my limited observation goes, occur among the Binandere, though in a minority of individuals the nose is strongly hooked. On the contrary, some of the broadest noses I have seen, with indices of over 100, occurred among the small number of Binandere I have met. Plate XX, Figs. 3 and 4, lent me by the Rev. W. R. Mounsey, represent typical Binandere of the Mamba River district. Plate XX, Fig. 5, reproduces a native of Cape Nelson belonging to the Kairikairi tribe, and Plate XXI, Fig. 1, three youths of the Okena tribe. This is one of the three tribes (Okena, Mokuru, and Korafi) inhabiting the Cape Nelson *massif.*

The Korafi have been studied by Dr. Rudolf Pöch, who in a preliminary publication states that they are mesaticephalic with a tendency to dolichocephaly, and considers that they have arisen from a mixture of Papuans and Melanesians, though he could find no trace of Melanesian in their language.[1] All are Binandere-speaking tribes, but, according to Mr. Monckton, the Korafi are at enmity with their western neighbours, and really consist of the representatives of a number of broken tribes shattered by the pressure of other Binandere-speaking tribes moving east, of whom the Okena were the foremost until they were checked by a confederation headed by the Korafi shortly before this region came under Government influence. A portion of the coast line between Mokuru and Korafi—*i.e.*, between McLaren Harbour and Port Hennessey—is inhabited by the Arifamu, who, Mr. Giblin states, speak a Melanesian language and are lighter-skinned than their neighbours, and who are, at any rate provisionally, to be regarded as the most western representatives of the Papuo-Melanesian race. The Arifamu, according to Mr. Monckton, united with the Korafi in repelling the onset of the Okena and their kindred tribes.

The valleys of the Musa and the lower Kumusi rivers are inhabited by Binandere-speaking tribes; Plate XXI, Fig. 2, for which I am indebted to Captain Barton, represents a Kumusi River native. The inhabitants of the Opi and Yoda Valleys and the slopes of Mount Lamington, according to Mr. Monckton, resemble those of the Mamba and speak Binandere dialects, but are somewhat lighter in colour. The men of the Opi-Yoda sub-group, thus defined by Mr. Monckton, resemble the Binandere in being rather tall, the average of six men, all members of the Armed Native Constabulary, being 1·672 m. (65¾ inches), while the cephalic index of seven men varied from 70 to 82. The indices of this small number of subjects, who came from villages scattered over a wide area, are probably only worthy of record as showing that there may be a brachycephalic element in the population of this part of New Guinea.

Plate XXI, Figs. 3 and 4, represents Oiagoba Sara, the chief of the Barigi tribe in Ketakerua Bay immediately to the north of Dyke Acland Bay. It will be noted that his hair is worked into numerous tails. Hair-dressing of an allied form in which the hair is gathered in long tails bound round with the bast of the paper mulberry characterises a congeries of tribes inhabiting the upper waters of the Musa River and its tributaries, the Moni and Adaua Rivers. The tribes inhabiting the valleys of these rivers occupy the lower portions of the Main Range, but Mr. G. O. Manning informs me that other tribes with the same fashion of head-dress are found in the Hydrographers Range. Many of these tribes behind the Cape Nelson Peninsula are extremely warlike, and it was necessary to dispatch more than one punitive expedition before the Doriri, as the coast people call these hill and mountain men, could be induced to stop their raids. Until our knowledge of this part of New Guinea is greatly extended it will perhaps be advisable to recognise a Doriri sub-group constituted by the tribes inhabiting the upper waters of the Musa and its tributaries with the neighbouring part of the Main Range, and at least the eastern portion of the Hydrographers Range. Plate XXII, Fig. 1, of a native of the Adaua River, shows the method of hair-dressing described.[1]

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[1] "Dritter Bericht über meine Reise nach Neu-Guinea," *Sitzungsberichte der kaiserl. Akademie der Wissenschaften in Wien, Mathem.-Naturw. Klasse.* Bd. cxv, Abt. 1, Mai 1906.

I have been able to gather but little concerning the customs or beliefs of the Binandere of the Mamba River district. They are frankly cannibal and distinctly warlike, and are the only people who have ever attempted to combine in any number against the Government. They are perhaps totemic[2] and I have been told by those who know them that they are obviously less afraid of the dark and of supernatural agencies generally than other Papuasians.

I am indebted to Mr. Giblin for the following information which bears on this matter:—" At death the spirit *asisi* (the word used to denote a shadow, mirror or reflection of any kind) goes away into a sago swamp (*abu*). What becomes of it there is not definitely known, but some think that *asisi* enter into wild animals, more especially crocodiles, pigs and cassowaries. It is said that certain persons have on occasions recognised the features of their relations in crocodiles and pigs, and thereupon not only refrained from killing them (which was done instead by some bystander), but also refrained from eating the flesh of these crocodiles and pigs. It is also said that *asisi* on going into the swamp becomes a *binei, i.e.*, an evil spirit inimical to a man, though the word is also used to designate the 'clown' in the scenic dances of the Northern Papuans." Mr. Giblin heard of only one other variety of spirit, *etemi*, a class of sexless beings rather bigger than man, and possessed of a tail, but in other respects resembling mankind. *Etemi* are not numerous and their origin is unknown; they chase people but do not injure them, though they laugh as if enjoying the fright they cause. Mr. Giblin could find " nothing in the nature of Deity, nor any approach to a word for worship "; the strongest word was one used to describe the attitude of women and children in passing before old men, and might be translated as signifying " to crouch in respect."

Their dances are elaborately pantomimic and are more energetic than any I have seen performed by natives of other parts of New Guinea. Mr. Giblin tells me that each village possesses, or should possess, a dancing house inside which dancing takes place nearly every evening.

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[1] I am indebted to Mr. G. O. Manning for the following description of how this form of head-dress is produced : " When a boy is about five or six he begins to pull his hair into one or two small pigtails, one usually about the middle of the top of the head. As this gets longer it hangs over his nose. Finally he grows more and then lets them all hang down behind. The hair is wrapped round and round with the inner bark of the paper mulberry." Some of the tribes of the upper Musa and its tributaries produce ornamental cicatrices as some of Mr. Manning's photographs show.

[2] With reference to this I may cite the following information given me by Mr. Giblin : " Nearly all village names are names of trees and generally there is only one clan living in each village." With regard to the existence of totemism he sends the following obtained from two boys resident at Dogura Mission Station, aged 17 and 14 years respectively. The former " says his totem is the *giriri* tree, which he does not cut for spear or firewood ; he does not eat the berries of this tree, his connection with which comes to him from his father ; his mother is of a different clan, which," says he, " I do not know, she has never told me." The younger boy states that his totem " is the *kanevidari* tree which is not a fruit tree. He does not cut it for any other purpose than as a pole for carrying pigs to a feast." These informants agreed that though no one should marry into his or her own clan this is sometimes done and nothing happens to persons doing it

A great deal of care and time may be spent in preparing the properties for the dances. Captain Barton described to me one figure of a dance in which there was given an elaborate representation of a man fishing with a hook and line, the angler after many attempts succeeding in landing the fish, which was represented by a piece of wood about a yard long thoroughly well carved in imitation of a fish.[1]

The only information concerning the social system of the Cape Nelson Binandere-speaking tribes is that furnished by Dr. Pöch, who states that the Korafi have what is probably a degenerate totemic organisation. Each man has usually but one totem animal, which is usually a bird, and descent is patrilineal. A woman takes her husband's totem on marriage, though he now respects his wife's totem animal. The children also respect their mother's totem animal, though they invariably belong to their father's totem. Individuals of the same totem live under one roof in the same house-group, but there are representatives of many totems in the same village. Marriage takes place between individuals with the same totem.[2]

The system of enumeration made use of at least by some, if not by all, of the Binandere, including those of the Mamba district, is different from that of the Papuans of the southern coast, whose extremely limited command of numerals has already been remarked. Mr. Ray informs me that the Binandere have numbers up to three, and then count up to ten on the fingers, *e.g.*, the number 4 is signified by describing the hand with four digits flexed and the little finger (for which they have a separate term) extended; 6 by the thumb of the second hand, and ten by words signifying "hands two."

East of the Cape Nelson Peninsula, tribes speaking Papuan dialects occur, but, according to Mr. Giblin, they do not reach the coast again in an easterly direction for some 30 miles, where a tribe which he calls Pem appears some 20 miles west of Cape Vogel. Inland of this tribe other Papuan-speaking tribes extend in the mountains as far eastwards as about the parallel of 150 degrees east longitude, but along the coast Papuo-Melanesian folk speaking Melanesian dialects are found. It is generally agreed that the Papuan-speaking tribes east of Cape Nelson have not the tall stature and notable physique of the Binandere-speaking tribes, nor does their language resemble those of the Binandere stock. Probably they are to be regarded as related to the Mailu and Domara of the south coast, and, like them, are to be regarded as arising from the mixture of Papuans and Melanesians, and to be classed as Papuo-Melanesians.

I may refer here to a skull collected by Captain Barton at Kokoda, 13 miles E.S.E. of Mount Victoria in the Yodda Valley, *i.e.*, south of the Yodda River, with a cranial index of 77. The general appearance of this skull, judged by such characters as the prominence of its muscular impressions and development of its supraorbital ridges, agrees so well with the skulls belonging to the Papuo-Melanesian group that we may regard it as derived from an individual of this group, and provisionally consider the eastern slopes of the Main Range as the western boundary of the Opi-Yodda, Binandere-speaking group.

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[1] There was no special reason to suppose that this scene had any magical significance, certainly no difficulty was made about allowing Captain Barton to collect the "fish," which it was said was made only for amusement for this dance.

[2] *Op. cit.*

PAPUO-MELANESIANS.

Since the Massim present far less variation in physical and social characters than their neighbours, the Western Papuo-Melanesians, and possess a culture and inhabit an area both of which are far more easily defined, they will be considered before the Western Papuo-Melanesians, though this must not be taken to imply the opinion that the Massim were the earlier to arrive of the two immigrant races.

The geographical distribution of the Massim has already been referred to on page 253, but from information given me by Captain Barton it is clear that on the south coast they extend eastwards at least as far as Dufaure Island and the mouth of Mullins Harbour, while, according to Mr. Giblin, outliers of this stock extend on the north coast as far as the Cape Nelson Peninsula. The whole district, containing over 70,000 square miles of land and water, is characterised sociologically by the occurrence of mother-right and a peculiar form of totemism which may be associated with a dual or multiple grouping of the clans.[1]

With the exception of the Trobriands, Marshall Bennets and Murua, with its ethnographical annexes Nada (the Laughlans) and Tokunu (the Alcesters) and perhaps Yanaba, the district is equally characterised by the prevalence of cannibalism.

Except on the Trobriands and Murua, the politico-social unit of the district is a small community, in the majority of cases too small and of too little permanence to be called a tribe. Nor should the scattered dwellings of these communities be called villages, for, although they are commonly spoken of as villages by Europeans who visit them, they lack the cohesion that this term implies. Further, their organization is essentially different from that of the villages found in other parts of the Possession, for not only are the dwellings of the comparatively small community scattered over an area perhaps 1,000 yards long, but on inquiry it is found that each of the house groups (usually containing from three to eight houses) constitutes a settlement, having a proper name of its own, and acting in some matters as an independent unit, of which the inhabitants—disregarding for the moment individuals who have married in or who have been adopted—are of one clan, and more or less closely related to each other.

To such small settlements, which, throughout the greater part of the south-eastern district including its many archipelagos, form the working units of the politico-economic system, I shall apply the term hamlet, rigorously limiting this term to settlements consisting of a number of houses inhabited by folk of one clan more or less closely related to each other by blood, or connected by marriage or adoption.

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[1] The form of totemism referred to has been described elsewhere (*Man*, 1909, 3) so that it is only necessary to say that it is characterised by the possession by each individual of a series of linked totems belonging to different orders of the organic kingdom. Typically, each group of linked totems includes a bird, a fish, a snake, and often a plant, while four-footed vertebrates may be added to the list.

A number of hamlets, built in contiguity with each other, which are usually spoken of collectively by one name, and which act together for purposes of offence and defence, will be spoken of as a hamlet-group. An example of such a collection of hamlets is seen in the Discovery Bay hamlet-group,[1] usually known as Wagawaga.

On the Trobriands and Murua true villages are found, and on these islands there are hereditary chiefs who possess real authority which differs greatly both in quality and extent from the comparatively slight influence possessed by old or important men throughout the greater part of the area under consideration.

Although the mainland and the majority of the islands of the district are fertile, and carry enough good soil to make gardens large enough to ensure an abundance of food for their population, certain thickly populated and comparatively small islands, such as Wari (Teste Island), do not at the present day produce, and perhaps never have produced, sufficient food for the needs of their inhabitants, with the result that trading communities have been evolved who depend to a considerable extent on imported food.

If a line be drawn obliquely from the north-western to the south-eastern corner of the Massim area it will be divided roughly into halves. The southern half, comprising by far the greater part of the land area, is inhabited by a short, predominantly dolichocephalic, rather broad-faced people with moderately dark skin and frizzly or rarely curly hair, and often a "snouty" mouth. In the northern half, that is to say, in the Trobriands, Marshall Bennets and Murua, the people are usually somewhat lighter in colour, and often have curly or wavy hair. Many of the men are taller, and they are, as a rule, less prognathous. Their skulls are rounder, and their noses often longer and narrower, while the bridge of the nose may be high and narrow. But these characters are shown only by a portion of the natives of these islands, and even in them the degree in which they occur is not constant. In fact, if skin colour be ignored, it is possible in the Trobriands to meet with individuals making a complete series from typical Papuo-Melanesians to tall, good-looking men who are quite Polynesian in feature, and it appears that these differences (and certain cultural peculiarities which accompany them) can be satisfactorily accounted for by a local infusion of foreign blood.

The Massim communities, as far as we at present know them, present so many common features that there does not seem to be any urgent necessity to divide them into groups, but if such classification be desired they might be divided provisionally into a northern and a southern group, the former including the Trobriands, the Marshall Bennets, Murua and its ethnographical annexes already mentioned on page 268. Further, the fact that it may later be found necessary to include Misima and Panniet in this group must not be overlooked. Nor must it be forgotten that we know nothing of the inhabitants of Yela (Rossel Island) at the extreme east of the New Guinea Archipelagos, nor of the inhabitants of the interior of the larger islands of the D'Entrecasteaux group, and that until these are explored no classification of the Massim can even approach finality.

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[1] I am indebted to Dr. Haddon for suggesting this term, which I consider preferable to "village-system" which I have used elsewhere, *e.g.*, in *Man, loc. cit.*

The predominant dolichocephaly just referred to shows a tendency to mesaticephaly which becomes especially obvious in measurements taken on the living. A varying number of brachycephals occur everywhere throughout this area, though in some places the proportion of brachycephals may be very small. Here and there individuals with curly and wavy hair occur, though these are far from common, except in the Trobriands and the Marshall Bennet groups.

The inhabitants of the D'Entrecasteaux group, composed of the three large islands of Goodenough, Fergusson and Normanby, appear to be the most dolichocephalic of the Massim. Sergi[1] has examined 118 skulls collected by Loria from Dawson Straits—*i.e.*, presumably the villages fringing the straits between Fergusson and Goodenough. Of these 118 skulls of both sexes 92 (78·2 per cent.) are dolichocephalic, 21 (17·6 per cent.) are mesaticephalic, and only 5 (4·2 per cent.) brachycephalic. Considering the difference in numbers this proportion agrees fairly well with the figures given by a series of thirty-four skulls with an average cranial index of 73 collected from a cave at Awaiama in Chads Bay and measured by Dr. Duckworth. This cave was said to be the depository of skulls brought over from Goodenough or Fergusson, though it is possible that the skulls are, in fact, those of the inhabitants of Chads Bay or the coastal Taupota villages just east of it. Thirty-one of these skulls (91 per cent.) are dolichocephalic and three (9 per cent.) are mesaticephalic. The average cephalic index of eight Goodenough natives is 75, so that if the two units usually deducted from living cephalic indices to make them comparable with skull indices be subtracted here, the living and skull averages give identical figures. With the average cephalic indices of 77 and 76 respectively of a small number of Fergusson and Normanby men, the correspondence though not so close is sufficiently striking. These natives of the D'Entrecasteaux group were the shortest I saw in New Guinea. Two out of eleven Fergusson men measured were under 1·470 m.—*i.e.*, considerably under 58 inches—while the average of the whole eleven men was 1·530 m. (about 60¼ inches). Seven Goodenough natives were taller, averaging 1·588 m. (about 62½ inches). Plate XXII, Fig. 2, shows a group of Fergusson Island natives.

Dr. Karl Hauser[2] has examined eight male skulls and two female skulls collected by Dr. Finsch on Dobo (Goulvain Island) to the east of Normanby Island, which may belong to the islanders themselves or be those of enemies from the neighbouring coast of Normanby or Fergusson. The eight male skulls give an average cranial index of 72·5 (min. 70·9, max. 74·9), but the two female skulls have indices of 78·5 and 79·8 respectively.

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[1] "Le Varietà Umane della Melanesia," *Boll. del R. Accad Med. de Roma*, xviii.

[2] *Das kraniologische Material der Neu-Guinea-Expedition des Dr. Finsch* (1884-85) *und eine Schädelserie aus Neu-Irland.* Berlin, 1906.

The coastal and bush natives of Bartle Bay in Goodenough Bay present as a rule very much the same appearance and physical characters as the Goodenough or Normanby men, but, as far as the small number examined went, tended more to mesaticephaly, while rare individuals among them had altogether finer features recalling a type by no means uncommon on the Marshall Bennet group.[1]

On the main land further to the east although dolichocephaly is predominant, mesaticephaly, and even brachycephaly, are not rare. Wagawaga lies almost at the head of Milne Bay; of ten Wagawaga men with an average cephalic index of 74 one was brachycephalic, similarly of ten skulls from Milne Bay giving an average cranial index of 73, nine are dolichocephalic and one brachycephalic with an index of 82. Fig. 3 of Plate XXII represents a Milne Bay youth, while Fig. 4 of the same plate is a photograph of a native of Sariba Island near Samarai.[2] The first of these photographs seems to me to be extremely typical of natives of this part of New Guinea. Much the same condition of things appears to prevail in the neighbourhood of East Cape, since five skulls from Nuakata (Lydia Island) including one brachycephal give an average index of 74. Practically nothing is known concerning the people in the mountains behind Milne Bay, but of the two men from Buhutu (which appears to be a general name for this mountainous country) measured, one was dolichocephalic, the other a brachycephal. Brachycephaly is also met in the neighbourhood of South Cape, where the average of seven skulls had risen to 76 (min. 71, max. 81), while the only man measured from this neighbourhood had a cephalic index of 84.

The inhabitants of Tubetube in the Engineer group, situated about half-way between Milne Bay and the Louisiades, allege that they originally came from the eastern end of Duau (Normanby), whose inhabitants in a general way they resemble. The average cephalic index of ten natives measured was 74 (extremes 71 and 75) and their average stature 1·555 m. (61 inches).

Passing east beyond the Engineer group in which is situated Tubetube to the Louisiades, there appears to be a general rise in the cephalic index of the living. The average of nine men, only one of whom was dolichocephalic, while three were brachycephalic, was 79. This raising of the index is not so clear in the few skulls accessible, but occurs nevertheless, since of six skulls of this group in the British Museum giving an average cranial index of 74 (minimum 69, maximum 77), four skulls are dolichocephalic and two mesaticephalic. Figs. 1 and 2 of Plate

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[1] Fig. 9 of the *Lancet* abstract (p. 428) shows a fairly typical native of Goodenough Bay.

[2] The rather uncommon physiognomy of this subject (Melanesian) is to my mind suggestive of Papuan ancestry. If I am right in this belief the occurrence of this type of face among the Massim in the neighbourhood of Milne Bay (where I met several examples) must be explained in the same manner as the occurrence of types showing Papuan influence among the western Papuo-Melanesians (*cf.* pp. 254–5 and Plate XVI); recent Papuan influence can certainly be excluded.

XXIII respectively represent natives of Misima and Sabari (11° 08′ S., 153° 06′ E.), both in the Louisiade archipelago.[1]

The Trobriand group lies some fifty miles north of Fergusson Island, and though certain islands of the former group send trading expeditions to the D'Entrecasteaux, I believe that intermarriage does not occur. Murua (the Woodlarks) lies 100 miles east and somewhat to the south of the Trobriands, it is also about 100 miles due north of the Louisiades. Between the Trobriands and Murua are the raised atoll islands of the Marshall Bennet group. Although the inhabitants of the Trobriands and of Murua undoubtedly belong to the Papuo-Melanesian group and share with the other archipelagos many of their chief social and cultural characteristics, the Trobriand and Marshall Bennet groups are differentiated socially by their recognition in each district or island (where these are coextensive) of a royal family in which there descends an hereditary chieftainship which really commands respect. Perhaps this is (or was) equally true of Murua, but upon this point I have no definite information.

On all these islands, and also on Panniet (Louisiades), the big sea-going canoes *waga* are built, and it is on these islands that the decorative art characteristic of the whole Massim district has reached its highest expression in the carving of the ornaments for the prows of the *waga*.[2] Plate XXIII,[3] Fig. 3, represents two Trobriand Islanders, and Fig. 4 of the same plate shows a native of Panniet.

A large number of skulls have been examined from Murua. A collection of thirty-seven brought back by Loria have been examined by Sergi,[4] while for the figures relating to forty collected by myself and colleagues in 1904 I am indebted to Dr. W. L. H. Duckworth. The figures given by these two collections vary considerably as to the prevalence of dolichocephaly and brachycephaly. In both collections the percentage of mesaticephalic skulls is about forty (43·2 Sergi and 40 Duckworth), but while 29·7 per cent. and 27·8 per cent. of Sergi's skulls are respectively dolichocephalic and brachycephalic, in our skulls there were 52 per cent. of dolichocephals. The average cranial index for Sergi's skulls is 79, that for those examined by Dr. Duckworth is 75 (minimum 68 and maximum 83). On combining the two collections dolichocephals and mesaticephals both occur to the extent of about 40 per cent. (40·2 per cent., and 41·5 per cent.), while the remaining 18 per cent. are brachycephals. It is not stated on which part of the island Loria's collection was made, our skulls were obtained from exposures in shallow caves and crevasses in the dolomitic cliffs about seven miles west of Mapas Island. Measurements of six men of Suloga village were taken; all of these were mesaticephals or brachycephals with indices varying from 78 to 85, and giving an average of 80·5.

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[1] I have not visited the Louisiades, my first-hand knowledge of the natives of this group being confined to nine natives whom I met and measured at Samarai.

[2] I am indebted to Mr. G. W. C. Pim for the information that *waga* with characteristic carving are, or were, also built upon Misima.

[3] For the use of this photograph I am indebted to Mr. A. C. English.

[4] *Op. cit.*

The Marshall Bennet group is inhabited by a short people (average 1·577 m., *i.e.*, about 62 inches), whose hair is often curly, and whose skin colour is the usual South-eastern tint, viz., a bronze brown. Measurements of 15 men from Gawa and Kwaiawata (average cephalic index 80) show that these islanders are predominantly brachycephals or high mesaticephals, the latter conclusion being borne out by the average cephalic index of 70 (minimum 77, maximum 91), derived from 35 skulls collected on Kwaiawata and examined by Dr. Duckworth.[1]

Here, as at Murua, two types—one long-faced and leptorhine or mesorhine, the other platyrhine and generally broad-faced—could be distinguished; a similar distinction is seen in the Trobriand Islanders, who in custom and culture appear to be identical with the Marshall Bennet group. Physically, however, the Trobriand people seem rather taller and tend more to mesaticephaly, the average stature of 20 Trobriand men being 1·609 m. (about 63½ inches), with an average cephalic index of 78 (minimum 72, maximum 84). Like the Marshall Bennet Islanders, their hair is often wavy.[2]

Although in many places, *e.g.*, in Milne Bay, the natives said that different clans might be recognised by their *gia*, *i.e.*, nose, and in a broader sense, face, I could never see that the differences alluded to occurred with particular constancy in any particular clan. But apart from any question of clan, it was easy to recognize in natives of Murua, the Trobriands and the Marshall Bennets, two more or less constant types to one or other of which the majority of the male population inclined. The chief difference in these types can be expressed by the nasal and facial indices and has already been stated. It did not seem that these qualities were especially associated with brachycephaly or dolichocephaly, or with the quality of the hair, though it appeared that men of the long-faced type were generally taller, and often very notably so, than the individuals of the short-faced, broad-nosed type, in whom the bridge of the nose was often low. Although no measurements of Trobriand chiefs were taken, the two members of one of the royal houses that I met were obviously of the long-faced, tall type. Again, at Suloga on Murua and at Gawa in the Marshall Bennets it was clear that certain men, who seemed to possess in a special measure the confidence of their comrades and who certainly showed a degree of initiative or a readiness to help us in carrying out our plans which the majority of their companions did not, were of this type.

From what has already been said it will be clear that I attribute this improvement in type to Polynesian admixture, evidence of which becomes more marked in the eastern archipelagos as the mainland of New Guinea is left behind. The difference in type found in passing from the west to the east is particularly shown in the increase of the cranial index and the cranial capacity, concerning which Dr. Haddon writes:

"The average cranial index of males and females for Dawson Strait is as nearly as possible 72·8 (min. 65·2, max. 88·1), while that for Murua is 78·9 (min. 71·9, max. 92·2). A consideration of the indices shows that this difference is not due merely to a relative increase in the brachycephals, but also to a raising of the index all round. Thus, taking the male cranial only, the minimum for Dawson Strait is 65·2, while that for Murua is 71·9, and the media are respectively 71·9 and 77·9. These conclusions are still more strongly borne out by the female crania.

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[1] These islanders prepare the skulls of their dead relatives and keep them in their houses.

[2] Figures of men from the Marshall Bennets showing the difference in the two types of face will be found in the *Lancet* abstract (Fig. 10, p. 505).

"The Murua crania are also of a greater capacity than those from Dawson Strait. I find they work out thus[1]:"

		Dawson.	Murua.
		per cent.	per cent.
Microcephalic	-1200	34	3·2
	1200-1350	43·1	22·6
Mesocephalic	1350-1450	12·1	38·7
Megacephalic	1450	10·8	35·5

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[1] These figures are derived from the skulls described by Sergi.

Explanation of Plates.

PLATE XVI.

Two men of Hanuabada, Port Moresby. (Capt. F. R. Barton.)

PLATE XVII.

Fig. 1.—Nara man, showing wavy hair. (Capt. F. R. Barton.)
Fig. 2.—A Purari River group. (Capt. F. R. Barton.)
Fig. 3.—Men of Goaribari, Aird River delta. (Capt. F. R. Barton.)

PLATE XVIII.

Fig. 1.—Two men of Toaripi. (Capt. F. R. Barton.)
Fig. 2.—A Jokea youth. (Capt. F. R. Barton.)

PLATE XIX.

Fig. 1.—Part of an *eravo*, Purari River. (Capt. F. R. Barton.)
Fig. 2.—Part of an *eravo* at Vailala, Papuan Gulf. (Capt. F. R. Barton.)
Fig. 3.—The Goddess Ukaipu from an *eravo* at Orokolo, Papuan Gulf. (Dr. H. S. Harrison.)

PLATE XX.

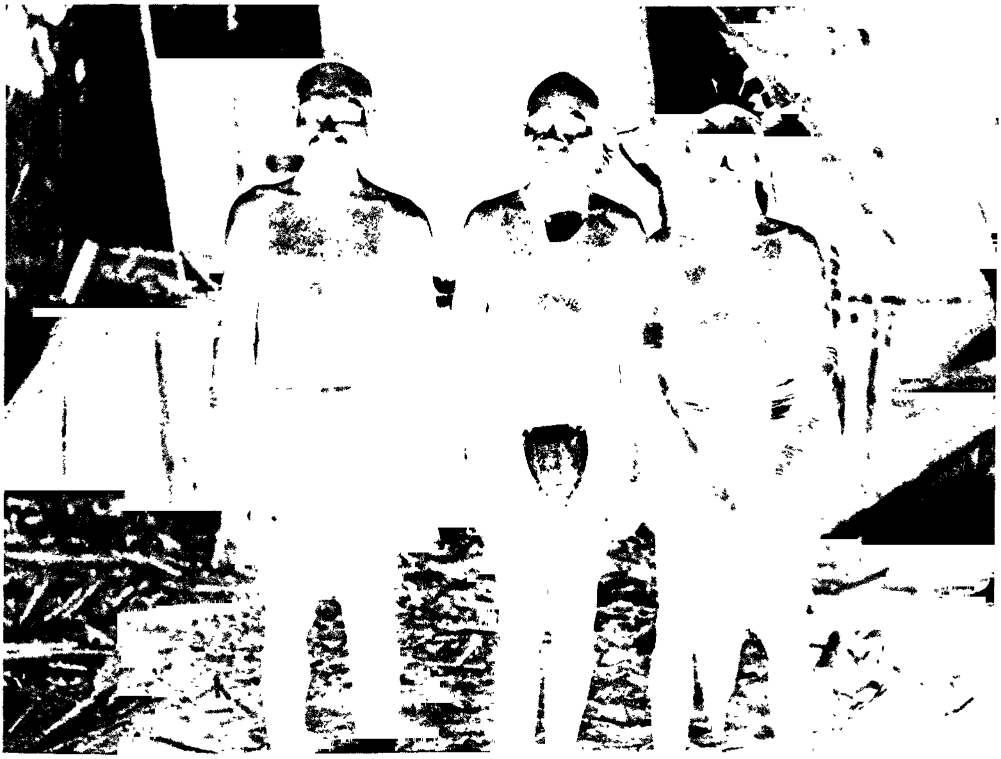
Fig. 1.—A group of Masingara. (Dr. A. C. Haddon.)
Fig. 2.—A group of Toro men. (Mr. A. Jewell.)

TWO MEN OF HANUABADA (PORT MORESBY).

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

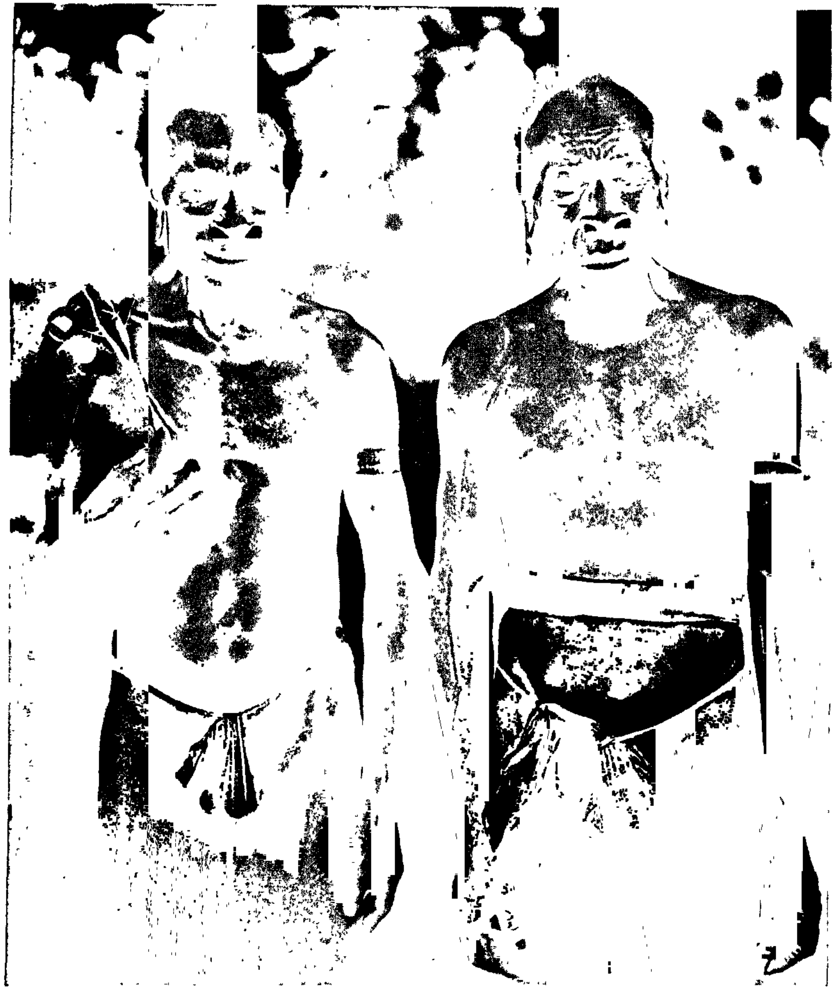
1. NARA MAN, SHOWING WAVY HAIR.

2. A PURARI RIVER GROUP.

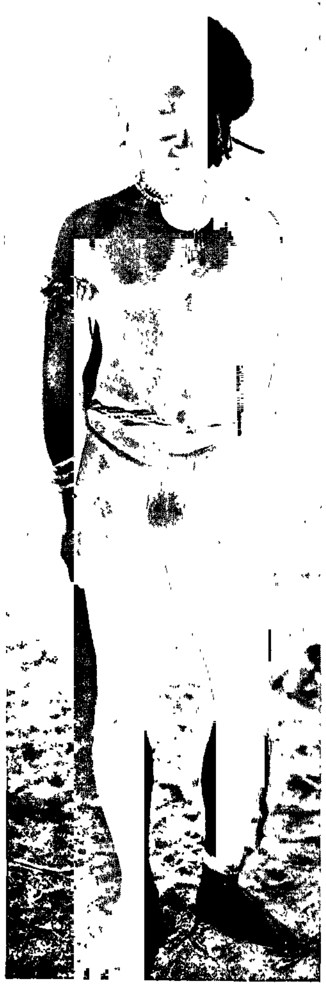


3. MEN OF GOARIBARI (AIRD RIVER DELTA).

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

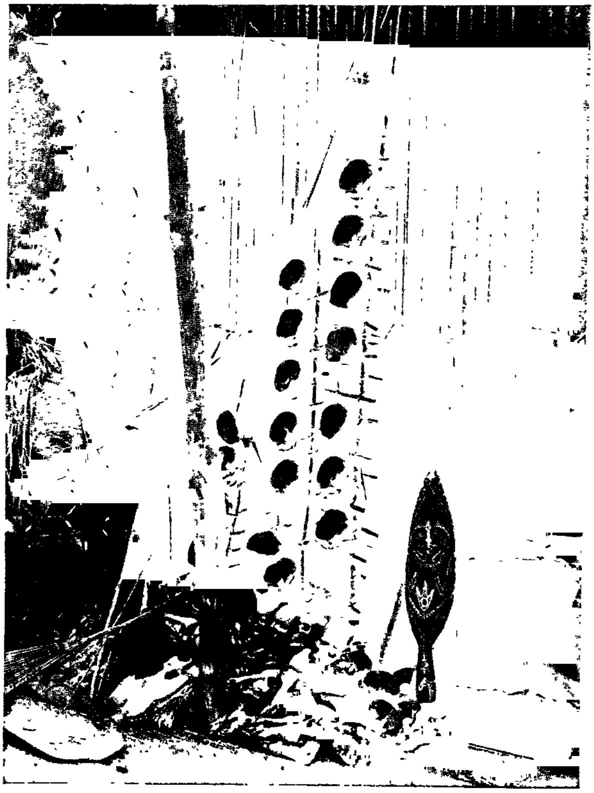


1. TWO MEN OF TOARIPI.

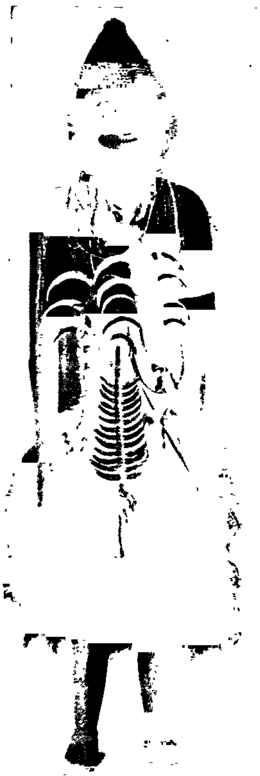


2. A JOKEA YOUTH.

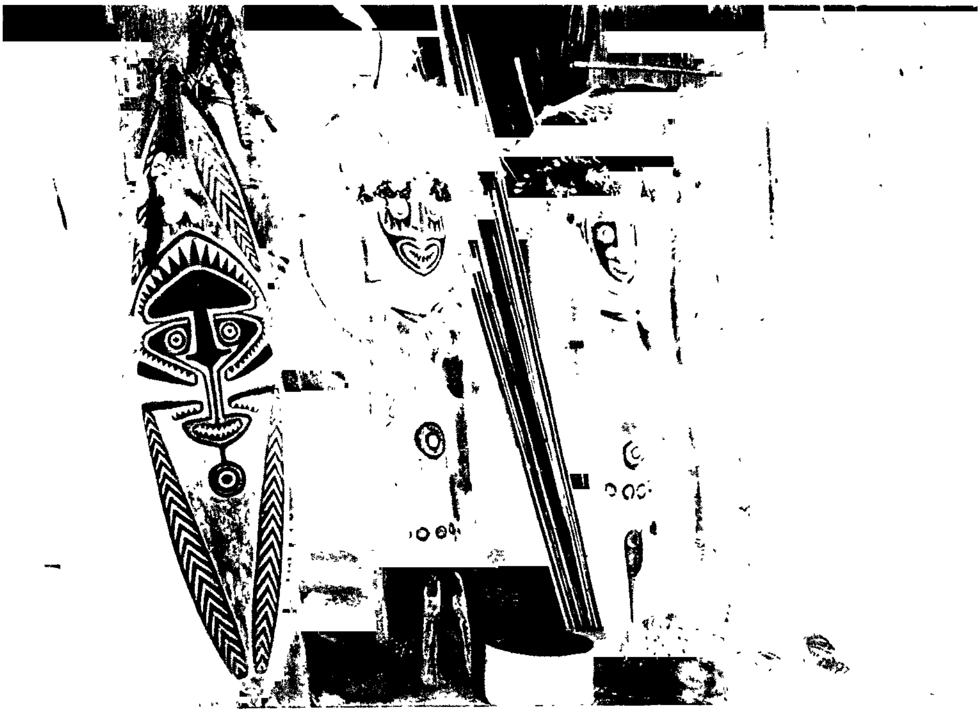
A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.



1. PART OF AN ERAVO, PURARI RIVER.



3. THE GODDESS UKAIPU (OROKOLO, PAPUAN GULF).



2. PART OF AN ERAVO AT VAILALA (PAPUAN GULF).

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

1. A GROUP OF MASINGARA.

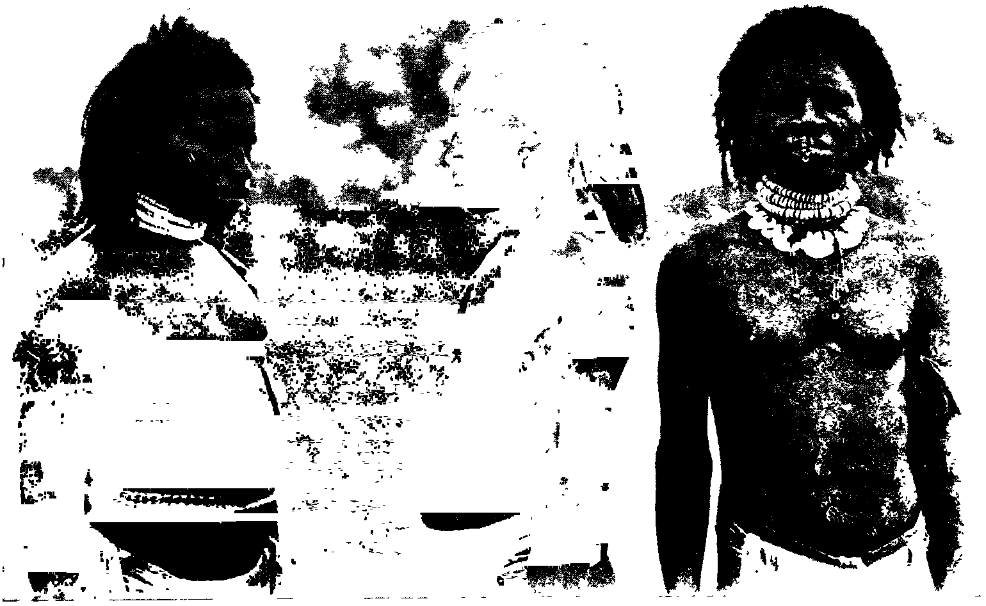
2. A GROUP OF TORO MEN.

3. A MAMBA RIVER MAN.

4. MAMBA RIVER GROUP.

5. A MAN OF THE KAIRIKAIRI TRIBE (CAPE NELSON).

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.



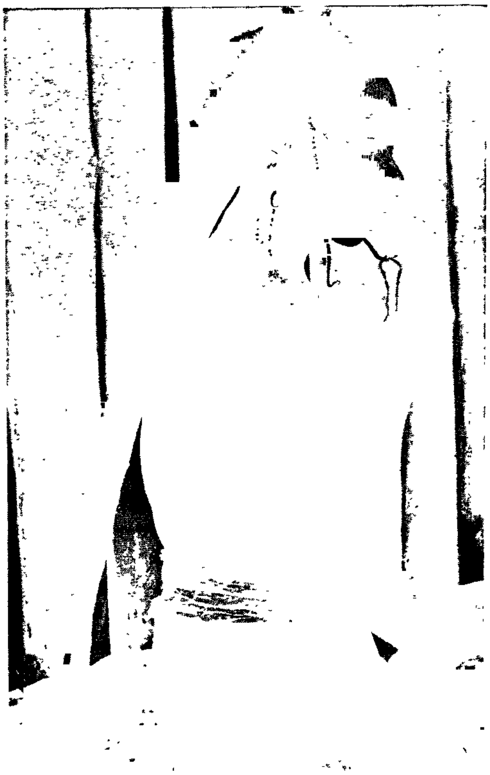
1. THREE YOUTHS OF THE OKENA TRIBE (CAPE NELSON).

2. KUMUSI RIVER MAN.

3. OIAGOBA SARA, CHIEF OF THE BARIGI TRIBE.

4. OIAGOBA SARA, CHIEF OF THE BARIGI TRIBE.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.



1. MAN FROM THE ADAUA RIVER.

2. FERGUSSON ISLAND GROUP.

3. YOUTH OF MILNE BAY.

4. MAN OF SARIBA ISLAND.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

1. NATIVES OF MISIMA.

3. TROBRIAND ISLANDERS.

2. NATIVE OF SABARI ISLAND (LOUISIADES).

4. NATIVE OF PANNIET.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

Fig. 3.—A Mamba River man. (Rev. W. R. Mounsey.)
Fig. 4.—Mamba River group. (Rev. W. R. Mounsey.)
Fig. 5.—A man of the Kairikairi tribe, Cape Nelson. (Capt. F. R. Barton.)

PLATE XXI.

Fig. 1.—Three youths of the Okena tribe, Cape Nelson. (Capt. F. R. Barton.)
Fig. 2.—Kumusi River man. (Capt. F. R. Barton.)
Fig. 3.—Oiagoba Sara, Chief of the Barigi tribe. (Capt. F. R. Barton.)
Fig. 4.—Oiagoba Sara, Chief of the Barigi tribe. (Capt. F. R. Barton.)

PLATE XXII.

Fig. 1.—Man from Adaua River. (Capt. F. R. Barton.)
Fig. 2.—Fergusson Island group. (Capt. F. R. Barton.)
Fig. 3.—Youth of Milne Bay. (Capt. F. R. Barton.)
Fig. 4.—Man of Sariba Island. (Dr. H. O. Forbes.)

PLATE XXIII.

Fig. 1.—Natives of Misima. (Capt. F. R. Barton.)
Fig. 2.—Native of Sabari Island, Louisiades. (Dr. H. O. Forbes.)
Fig. 3.—Trobriand Islanders. (Mr. A. C. English.)
Fig. 4.—Native of Panniet. (Dr. H. O. Forbes.)

THE SO-CALLED NORTH EUROPEAN RACE OF MANKIND.

A REVIEW OF, AND VIEWS ON, THE DEVELOPMENT OF SOME ANTHROPOLOGICAL QUESTIONS.

(*The Huxley Lecture for* 1909.)

BY PROFESSOR GUSTAF RETZIUS.

WHEN I received the flattering invitation from the Council of the illustrious Royal Anthropological Institute of Great Britain and Ireland to give the "Huxley Memorial Lecture" this year in London, I rather hesitated to accept this honour, having of late for some years devoted myself chiefly to researches in the world of the microscope.

But in recalling to my mind the image of that man in memory of whom these lectures are instituted, and in considering what science owes to him, my desire to accept the invitation overcame finally my hesitation. This decision was last but not least confirmed by the recollection of the numerous proofs of cordiality and friendship which I had received from that grand scientist on the occasions when I had the pleasure of meeting him, and also in other ways.

Though that matter was thus settled, there still remained the difficult problem of selecting a subject suitable for the purpose.

The races of Europe, to which I have principally devoted my anthropological studies, had already been comprehensively dealt with by Dr. Deniker in 1904, in his Huxley Lecture on that subject. I thought next of the enticing task of attempting to give a survey of the finds, both of early and recent date, relating to the ancient so-called *Neanderthal race* in Europe, which in so many respects are apt to confirm the ingenious conception of Huxley himself regarding the relation between that race of ancient times and those of the present day. However, as the documents dealing with the most recent finds are as yet only published in part, it would not have been suitable to take up that topic for a detailed discussion, tempting though it might be to do so.

It is doubtless an essential feature of these lectures, that the subject should be chosen in that particular field of anthropological science to which the respective lecturer has devoted his special attention. Consequently, I have decided to choose that branch of the blond long-headed race in Europe which, from ancient times, has had its home in my native country of Sweden, and I propose to deal with it in my lecture to-day, seeing that it is upon that that my own researches in anthropology have mainly been directed. That race, which has for a long time past been spread over northern, and especially north-western Europe, and which has recently, owing to emigration, begun to form an increasingly large element in the white population of North America and other continents, has not been subjected to thorough investigation until recently, and is therefore, comparatively speaking, little known.

It was principally the study of the shape of the cranium that led anthropologists to pay special attention to and define this race and element, now usually termed the North European race, and so it may be of interest to my audience if I recapitulate here the chief facts in the history of our knowledge regarding that part of the human frame. It is the more desirable for me to do so, as it has become the fashion latterly—not so much among the representatives of the science of anthropology themselves as among outsiders—rather to diminish the importance of that portion of anthropology which is termed craniology. It is evident that these opponents, some of them hypercritical, others quite uncritical in their judgments, have unreasonably looked for startlingly remarkable results from this method of investigation, and have been ready, on discovering that the solution of the great problems has not been immediately forthcoming, to throw the blame for that on the method itself. That, however, is unjust in the extreme. On the same principle it would be possible to condemn various other branches of scientific research, *e.g.*, meteorology, physiology and several of the branches of medical science, for they too have failed as yet to lead us to the goals we have imagined we were to reach by their aid. The fact is, we imperfect human beings have got to realise that the highest goals are also the most difficult of attainment, and moreover, that nothing whatever is absolutely certain. Do we not repeatedly see that faults and deficiencies are discovered in almost everything that has been once for all, as it was thought, accepted as true and perfectly sure? To take a case in point, it is not many years ago since we were informed and taught, both at school and elsewhere, that the chemical elements were strictly individual and invariable, whereas now that theory has been proved to be untenable by the epoch-making discoveries of Sir William Ramsay.

But even if the investigator is not successful in arriving at the final solution of the problem which he is engaged upon, the labour that he expends in his efforts serves to extend the knowledge of the subject continually. In this connection I may perhaps be allowed to quote the apt words of the great natural scientist, Carl Ernst von Baer, written half a century ago, in his well-known "Bemerkungen" upon the desiderata for future investigation in the department of craniology, relative to the suggestions for the classification of the various forms of the cranium, which had been made by a prominent Swedish anatomist of that day: "Mir scheint, dass dieser Impuls Epoche in dem Studium der Verschiedenheiten der Völkerstämme und Völker, somit auch in dem Urtheil über die Bedingungen derselben machen kann und hoffentlich auch machen wird. Nicht als ob ich glaubte, dass diese Früchte schon morgen in den Schooss fallen werden, oder auch nur in der

Zeit eines Menschenalters geärndtet werden . . . . Die wissenschaftliche Forschung führt uns freilich nicht ganz zu den letzten Zielen, die wir allmählich erkennen oder wenigstens ersehnen lernen, aber die letzten Ziele mit Bestimmtheit in's geistige Auge gefasst, lassen doch eine Menge Verhältnisse auffinden und erkennen, zu denen wir nicht gelangen würden, wenn wir nicht nach den wissenschaftlichen Zielpunkten zu suchen lernten."

If now a just and impartial summary be made of the results of research in craniology during the past half-century, it will be found that their total amount is by no means unimportant, even though the actual aim that was sought to be attained has not been reached. It must be remembered that anthropology makes use of a variety of methods and the object in view is to advance knowledge as a whole by a wise combination of them all. Science is, as a rule, most satisfactorily advanced by her devotees applying a new method or a new process for a considerable time after its discovery, and indeed until it no longer proves efficacious or until it has been superseded by a better one. It is bound to happen that from time to time a pause, as it were, in the general advance will occur, and when that is so, it is apt to call forth expressions of disappointment and of unjust criticism both of the method employed and of the scientist who still adheres to its use. Examples to illustrate the truth of this might be adduced, did time permit, from the domain of more than one of the sciences.

After these introductory remarks I now go on to give a brief survey of the development of craniological research, and propose, in doing so, to lay particular stress on the early stages, partly because they appear to have been rather left out of sight latterly, and partly because they are of especial importance in regard to the subject with which I am here going to deal, viz., the anthropology of the North European race.

* * * * * *

The first scientist who found a place in the natural system for human beings, was, it will be remembered, Linnæus, the Swedish naturalist. He was also the first to subdivide human beings into distinct zoological categories. Men, he says, form one *species*, but among them there are to be found several *varieties.* He differentiated four, one in each of the continents then known, characterising them principally by the colours of their skins: Americanus rufus, Europæus albus, Asiaticus luridus, Afer niger. He also gave a category which he named Monstrosus, embracing certain varieties of an abnormal type with which he was not acquainted. The people living in Polynesia were wholly unknown to him. As for the white man, Europæus, the description he gives of him shows that he was only familiar with that section of Europeans living in the northern parts of the Continent. Linnæus himself had not extended his foreign travels beyond Northern Germany, Holland, Northern France, and England. Thus, when he defines his Europæus as: "Albus, Sanguineus, Torosus, Pilis Flavescentibus, Prolixis, Oculis Cæruleis," the characterisation, especially in the last items does not, generally speaking, suit the population of the whole of Europe, but rather only that of its northern districts, *i.e.*, the peoples usually classed as belonging to the Teutonic family; the Scandinavians and the inhabitants of Holland, England, and the northern parts of Germany and France. Linnæus himself, however, undoubtedly included the peoples of Europe in general under his Europæus, differentiating them as a whole from the varieties of Homo sapiens to be met with in Asia, Africa, and America. The attempt made recently in some quarters to place the Alpinus of Linnæus side by side with his Europæus, as representing the population of the mountainous regions in Central and Southern Europe, is palpably due to a misinterpretation of Linnæus' own statements. His "homines Alpini," it must be observed, are classified in the imagined group "Homo Monstrosus," along with "Monorchides, Macrocephali, Plagiocephali," *i.e.*, forms of a more or less abnormal character, his knowledge of which was probably derived from the works of other writers or from hearsay evidence. If any definite race of man was in his mind when he spoke of "Alpini," it was probably the Laplanders; at any rate that is the view of those who know the work of Linnæus best, for he had had opportunities of studying the Lapps at close quarters, and describes them in another passage as "parvi, agiles, timidi." As he does not actually state, however, that he meant the Laplanders by his Alpini, it is best not to attempt to identify the two, but to leave the Alpini among the group of "monstrous" or abnormal varieties. It has appeared to me desirable to raise a protest at this early stage of my argument against the deductions and conclusions that have been recently made regarding the "Homo Alpinus" of Linnæus, for they cannot possibly be correct. Moreover, I have personally investigated all the different editions of Linnæus' *Systema Naturæ* as well as the hitherto unprinted notes taken by his pupils during his lectures, and have come to the definite conclusion that he only assumed that there is *one* variety of Homo sapiens in Europe, viz., Europæus, but that he described that variety in accordance with the observations he had made personally in intercourse with those around him in his native country and in other parts of Northern Europe, and that he placed this variety side by side with those of the other continents: Africa's black variety, Asia's yellow variety, and America's red variety.

It is a known fact that other writers too, such as Leibniz, Buffon, Kant, John Hunter, etc., have treated the subject of the different varieties of the human race in various ways, but for the most part only in vague and general terms.

Blumenbach, the German anatomist, was the first to enter upon the investigation of the human race in a serious manner from the standpoint of a natural scientist, and to study its different varieties comprehensively and exhaustively. His subdivision, like that of Linnæus, was in accordance with the continents and with the colour of the skin and hair. He, however, noted for the first time variations in the *shape of the skull and the face*. Blumenbach added one more to the four principal varieties into which Linnæus divided Homo sapiens, this fifth variety, which was unknown to Linnæus, being located in the islands of the Pacific. Blumenbach's names for his five varieties were, we may remember:

the Caucasian, the Mongolian, the Ethiopian, the American, and the Malayan. The Caucasian embraced all the peoples of Europe except the Finns and the Lapps, but also included the peoples of Western Asia as far as the River Ob, the Caspian Sea, and the Ganges, and also the inhabitants of Northern Africa. This variety was characterised as possessed of *white skins, red cheeks, brown or nut-brown hair, rounded skulls, oval faces, slightly arched and rather slender noses, small mouths, perpendicular front teeth, and as not having big lips.*

The only peoples in Europe Blumenbach did not classify in this group, viz., the Finns and Lapps, he placed among the Mongolians.

Blumenbach published his characterisation of the five varieties of the human race in his well-known work, *De generis humani varietate nativa* (first edition, 1775, third edition, 1795). It is very clear from several remarks he makes, that he was concerned with *the shape of the skull* as well as with the colour of the hair and the skin. In his anatomical museum at Göttingen he had a fairly large collection —for that time—of human skulls, containing representatives of even very distant regions of the earth. His fundamental work, *Decas collectionis suae craniorum diversarum gentium illustrata* (1790–1820) deals with this collection. The work consists really of six decades containing sixty plates in all; a further five are reported to have been published subsequently in 1828, but I have not had the opportunity of seeing them, and another five appeared posthumously, long after his decease, though he had prepared them for publication before he died. It is a recognised fact that Blumenbach took into consideration also the shape of the skull itself, especially its length and breadth, its sincipital aspect—what he calls *norma verticalis*—and that he distinguished between "the square shape," characteristic of the Mongols, and "the pressed-in from the sides" form, as found in negroes, and that he recognised the round, beautiful, intermediary form, represented by the Caucasians. Regarding the Malayan skull, on the other hand, he only remarks that the forehead is narrower, and about the American variety he merely states that the form of the forehead and of the skull have been in most cases artificially altered. However, in later editions of his above-mentioned work, *De generis humani varietate nativa,* he gives figures of three crania, viz., an Æthiopian woman, a Femina Georgiana, and a Tungus woman, and strangely enough the sincipital aspect of the Georgian woman is far more square (with markedly developed parietal tubera) than that of the Tungusian, whose sincipital aspect is more nearly oval-elliptical and very much like that of the negress, though larger in dimensions. In any case it is a fact that Blumenbach has displayed in this figure three crania as seen in what he calls the *norma verticalis.* Yet a study of his principal contribution to craniology, his *Decas,* shows that he considers, as he states definitely at once in his introduction, that the *os frontale et maxillaria* are the most important part of the entire cranium, forming as it were the foundation of the rest, and that they vary least, whereas the posterior sections of the cranium are of less importance and vary more. That this was his opinion is indisputably corroborated by the numerous figures in that same work of his.

Among all the figures (I–LX) in the first six decades of the work and among those published posthumously (LXVI–LXX) there is *not a single one* reproduced in the sincipital aspect, *i.e.*, in his own *norma verticalis.* (As mentioned above, I have been unable to examine the character of the figures LXI–LXV). *One only* of the crania is represented full face (*norma frontalis*), fourteen in a fairly exact profile or side view (*norma lateralis*), while *all the remaining forty-five* are given in a more or less exact half profile, *i.e.*, in none of his *normæ* at all; none, consequently, in *norma occipitalis.* It is evident from this how little he himself valued his *normæ*, more especially his *norma verticalis.* From the figure, and also from the descriptions he gives, one can perceive that Blumenbach concentrated his attention, in his craniological researches, primarily upon the *physiognomical* elements in the appearance of the cranium and especially of the forehead and the other parts of the face, *i.e.*, upon the typical features of the physiognomy. A confirmation of this may be found in the circumstance that, so far as is known, he never, or practically never, carried out measurements of the crania, either in his investigations or when he was describing the differences of shape in the crania he had collected. The most reliable evidence, however, of Blumenbach's not having grasped and appreciated the real value of the *norma verticalis* of the crania, and especially the importance of the ratio existing between the length and the breadth of the skull, lies in the fact that he included in one or other of his five varieties peoples whose sincipital aspects, and especially also the indices of length and breadth, are exceedingly different one from another. To take an example: he placed in his Mongolian variety Lapps and Eskimos, races of men that are very divergent as far as the shape of the cranium, especially their length and breadth relation, is concerned. In the Caucasian group, too, he collected a number of peoples whose crania show very marked differences one from another. It is very remarkable, moreover, that he selected the name Caucasian as suitable for the peoples of Europe, with the Caucasus and its round-headed population as the central point.

It has appeared to me desirable to bring forward these historical data by way of introduction to my account of the anthropology of the European, more especially the North European, race. My intention in so doing is not to depreciate in any way Blumenbach's very real merits, but simply to state the true facts as they have presented themselves to me, as a result of the critical examination of his works that I have undertaken. In other places I have already had occasion to point out these considerations regarding the matter in hand, most recently in the introduction to my work entitled *Crania Suecica Antiqua* (1899 and 1900), but nevertheless the earlier view, which is palpably false, still seems to be held in certain quarters. It is quite clear that Blumenbach has the merit, as above stated, of being the first to make a serious and extensive study of the form of the crania of the different races of mankind, but he appears to have been fettered by his absolute belief in the uniformity of his five varieties, and he neglected to observe that within them there are assembled races, whose crania-forms are so typically different, that these races cannot be brought together in the system. It seems singular to us that, although he was a thorough naturalist, he should have classed together such widely separated races as Lapps and Eskimos, to confine ourselves to that one striking example already adduced. It would seem that his attention had become closely fixed upon the physiognomical characters of the facial features of the crania, as indeed is plainly apparent from a study of the Decades, his principal work on the crania. If, in pursuing his investigations, he had made use of his *normæ*, and especially his *norma verticalis*, he might have advanced science more than he really did. Blumenbach has the merit of having introduced into the science of anthropology the study of the form of the skulls—he is the real founder of Craniology. But his work shows a lack of clearly defined lines, of fixed points of starting, and of incentives to fresh investigation. Consequently his work in Craniology could not stimulate other scientists to successful researches, and a considerable time passed without real results in this department of science. Neither Sandifort nor Prichard were able, moreover, to furnish any new suggestions to help towards the solution of this particular question, though the latter rendered great services by his large and comprehensive work on Ethnology, and deserves to be looked upon as one of the pioneers in that field of inquiry.

In the year of Blumenbach's decease, 1840, Anders Retzius, the Swedish anatomist, laid before the Academy of Sciences in Stockholm the first draft of his theory regarding the shape of the crania, and in 1842 he lectured on "The Form of the Skulls of the Northern peoples of Europe" to an assembly of Scandinavian natural scientists in Stockholm. That lecture was subsequently translated and published in Holland, France, and Germany. It aroused no little attention in the scientific world, for it brought forward new suggestions and new points of view.

Up to then it had been usual to regard each of the varieties, into which the human race had been subdivided by Linnæus and Blumenbach, as essentially *uniform*. Anders Retzius, however, now showed, as a result of his unprejudiced and accurate investigation of the forms of crania upon which Blumenbach principally founded his theory, that not even the Caucasian variety, established as a unit by Blumenbach, was uniform throughout; that it indeed, on the contrary, included races of men possessed of very different forms of the skull. He not only proved that the Lapps, Finns, and Eskimos, whom Blumenbach brought together and placed in the Mongolian variety, have crania so widely differing from each other, that they cannot possibly belong to one and the same variety, but also that the proper inhabitants of Scandinavia, *i.e.*, the Swedes, Danes, and Norwegians, differ materially in the shape of the cranium from the inhabitants of Russia, and from the other peoples related to them, *i.e.*, the Slavs.

The skull of the Scandinavian is narrow and more extended backwards, and when looked at from above is more or less oval in outline; that of the Slavs on the other hand is broader, shorter, and when seen from above is more or less round in outline or squarer. The peoples with the longer shape of the cranium Anders Retzius called *Gentes Dolichocephalae*, those with the shorter *Gentes Brachycephalae*. In arriving at his conclusions he made use of *measurements* of the crania in various directions. For the ratio between the measurements of maximum length and maximum breadth of cranium he adopted 1,000 : x. In Swedes the ratio of length to breadth was found to be 1,000 : 773, in Slavs 1,000 : 888, etc. Anders Retzius had thus given the initiative to the *index*-measurement system, which has since played so important a part in anthropology.

In the following years, until his death in 1860, there appeared a succession of treatises and reports, in which he placed on record the results of his continued investigations, and in them he made it abundantly evident that the relation between the length and the breadth of the cranium forms one of the most important criteria for race distinctions that those engaged in making a comparative study of the races of mankind can employ. He tried to group the peoples both in and beyond Europe by the aid of this relation, but it was not by any means his idea thereby to establish any sort of "system of the races of mankind," as is mistakenly supposed by some. In his works Anders Retzius spoke of the classification as merely *an attempt to arrange the forms of Crania.* He was able to show that dolichocephaly and brachycephaly are to be found all the world over, except in Africa; but he was not able, any more than those who have taken up the question subsequently have proved able, to explain the real purport of the phenomenon or how it has arisen. This difficulty of arriving at the explanation of the ultimate cause of a phenomenon is, as we know, characteristic in fact of all the phenomena we meet with in Nature. Research enables us to reveal their existence, to describe and register them, but it is rare indeed that we are enabled to discover their origin and cause. That is the case, too, with the majority of the other race-characters. We are aware that the negro's skin is black, the Indian's red, the Mongolian's yellow, and the European's more or less white. But has anyone ever been able to demonstrate *why* the colouring is so varied in the skins of these different races? The same difficulty arises when an explanation is required of the differences in the colour and character of the hair, the colour of the iris, the stature or length of the body, etc. It is therefore essential for us to rest content with having established the fact, that dolichocephaly and brachycephaly are to be found disseminated throughout Europe, Asia, Polynesia, and America, not, however, merely promiscuously without rule, but existing as a criterion of race for the different peoples inhabiting those regions of the globe.

Anders Retzius did not lay down any definite figures by way of limit to mark off dolichocephaly from brachycephaly. He had come across intermediary forms between the two varieties, and he seems to have thought it best to adopt a central point as characteristic for each. Thus, he states that the length of the head of the dolichocephali exceeds the breadth by about one-fourth of the length, *i.e.*, the length stands to the breadth in the ratio of 100 : 75, whereas the ratio for the brachycephali is 100 : 80–87, *i.e.*, the length exceeds the breadth by one-fifth to one-eighth.

From the account given by Anders Retzius we may see in general that he did not regard dolichocephaly and brachycephaly as merely a matter of measurement and nothing more, but looked upon them rather as a typological character, a ratio indicative of form, possessing a very close relationship to other criteria of form, which he also described in several of his works.

That he paid attention in his researches, not only to the shape of the skull itself but also to the parts of the face, is evident from two circumstances, first, that in his classification he registers the greater or less degree with which the jaws project, their orthognathic and prognathic properties; and, second, that he gives the dimensions of the face (height of face, jugular breadth) both in his series of measurements and in his descriptions of the characters of the face.

It is not my intention, however, here to enter upon a further discussion of this phase in the history of anthropology. I have only desired to bring forward some of its salient points, seeing that they are of fundamental importance for us in seeking to arrive at a clear idea of the history of the race question, even as regards Europe alone. In accordance with the theory of Linnæus and Blumenbach it was generally supposed, as has been stated above, that the white, European, variety of the human race—Blumenbach's Caucasian variety—consisted of a *uniform group* of people more or less homogeneous among themselves. The idea put forth by Anders Retzius first directed attention to the existence of considerable *divergences of race even within the white variety, i.e., among the peoples of Europe itself.* The Swedish anatomist and anthropologist demonstrated that the skull of a Swede and that of any other representative of the same stem, the so-called Teutonic stem, differ very widely not only from those of the Lapp and the Finn but also from that of the Russian and, broadly speaking, from that of a Slav. Anders Retzius laid strong stress, consequently, upon the fact that *languages* do not afford any certain guide for determining criteria of *race.* As early as 1847 he expressed himself as follows in one of the publications that issued from his pen: "The whole of mankind belongs to *one* species; the varied types are varieties of several different grades, which, in many localities, have become hybridised one with another. In most countries more than one type of nationality is to be found naturalised; thus in many countries migrations of people have taken place, small sections of the tribes previously dwelling there still remaining distributed—though sparsely—among the more numerous new-comers. In several countries the people who thus remained adopted the language of the tribe that won its way in amongst them; that is said to have been the case in North Germany, where the population, originally Slavs, adopted German as their language in course of time, and by degrees, through acquiring familiarity with German ways and customs, became thoroughly amalgamated with the German nation. Similar conditions have produced the same results in many other regions both in the New and the Old Worlds."

There is also, he said, to be taken into consideration the influence exercised by minor immigrations of people from other countries, and the fact, too, that countries possessing a higher degree of culture often foster a considerable number of individual differences of form.

To establish for certain what is the primary form is, he added, under such circumstances, a matter that necessitates the carrying out of a great number of investigations. So far as is possible, *both living beings and the skulls of the dead* should be made the objects of examination. To be able to pronounce a verdict upon the forms, one requires to have an eye trained in prosecuting natural history research.

These statements published by Anders Retzius sixty-two years ago embody both the underlying principles and essential programme of cranio-anthropological research as it is to-day, for they are still recognised as valid and authoritative, and the way in which they are expressed could hardly be abbreviated or otherwise improved. What he asserts respecting the displacement of one language by another, and the conclusions that may be drawn from them regarding the races of men, have gradually become recognised as correct by scientists in general, in spite of the opposition of the linguists. It is evident that whole groups of people of differing nationalities have exchanged their own original languages for those of other peoples, and that, too, even in Europe. Thus, not only have bodies of people originally speaking a Slavonic language, adopted a Teutonic, but also *vice versâ;* moreover, a number of the bodies of people speaking Slavonic have presumably originally had other languages widely differing from both Slavonic and Teutonic, which, as we know, are related one to the other.

Owing to these circumstances, which at this late day hardly admit of being cleared up satisfactorily, ethnological research has been rendered exceedingly complicated and involved. There are certain signs that point to the probability of the peoples whom Anders Retzius styled Slavs, and among whom he proved the general prevalence of brachycephaly, having belonged to a race wholly different from those that spoke the Slavonic and Teutonic languages, the remnants of that race having been to a very great extent mingled (hybridised) among the peoples now speaking Slavonic and Teutonic. It has long been recognised as one of the greatest of misfortunes, so far as ethnology is concerned, that nationalities took their names from linguistic and political characteristics, and the inconvenience is far from having been removed as yet. Anthropologists several times have pointed out the state of the case, but as long as the original races cannot, with any degree of certainty, be distinguished one from another with respect to their characters, it is out of the question to bestow upon them such designations, *termini technici,* as would meet with general acceptation in the scientific world. Not until this is realised may we hope to exchange such terms as Slavonic, Germanic, etc., as distinctive names of the various races, for more exact physico-anthropological terms.

After Anders Retzius, in 1842, had in this way established the fact, that the form of the skull of Swedes and of the Germanic peoples cognate with them differed in essential particulars from that of the Russians and the Slavonic peoples cognate with them, he proceeded, step by step, to show that dolichocephaly and brachycephaly were to be found to a greater or less extent in several other European countries. In an essay published in 1847 he writes: "From what has been said it will be clear that it does not suffice to say that a cranium belonged to a Frenchman, an Englishman, a Russian, etc. France is inhabited by Basques, Germans (Teutons), Normans, several different Celtic tribes, etc.; the state of things in England is approximately the same, and the number of the varied tribes of people in Russia is still larger." In another paper, published in the same year, he reports having been in a position, during a stay in France and England, to obtain some data regarding the shape of the crania of the inhabitants of those countries. He found three varying shapes to be prevalent, viz., a round one in the south of France, and in some localities in Scotland and Ireland a long oval shape, which he regarded as being the Celtic variety, and a shorter oval, which is the Norman and cognate with the German (Teutonic). I do not, however, propose to enter upon a detailed description of his results in this department of his research work, but will content myself with citing one or two passages from his writings published towards the close of his life, more especially the following, which occurs in Joh. Müller's *Archiv* for the year 1858.

He says "Bereits vor längerer Zeit, hatte ich Grund anzunehmen, dass *die brachycephalische Form in gewissen Theilen der Schweiz vorkomme,* aber in diesem Sommer (1857) während einer Reise durch *Bayern, Würtemberg, Baden und die Schweiz* bin ich *überzeugt worden, dass diese Schädelform die vorherrschende in allen diesen Ländern ist.*"

Another communication, which did not appear until after his death, contains this remarkable passage, in the form of a note relative to the same treatise:—

"Since the above was published, I have been able to examine a considerable number of crania in Tuscany, Lombardy, Piedmont, the Tyrol and Switzerland, and have come to the conclusion that the races of men prevailing in those countries are black-haired brachycephali. That is also the case with the majority of those living in Bavaria, Baden and Würtemberg. In France the Basques have the same shape of cranium. In Saxony and Austria this shape is very general and the population in these countries is probably of Slavonic extraction."

I desired again to repeat these quotations, for they contain the very germ of one of the most important discoveries made in anthropology during the whole of the last century: the revelation of the prevalence of brachycephaly in the population of Central Europe, *i.e.*, among a people that has recently been usually named the Alpine race, whose territory to the south abuts on the area inhabited by the long-headed Teutons proper, and which adjoins in the west the habitat of the brachycephalic population of France, and in the east that of Austria and Russia.

Anders Retzius, the Swedish anatomist and anthropologist, must consequently be credited with having, half a century ago, discovered dolichocephaly to be markedly prevalent among the peoples of Northern Europe, *i.e.*, the Teutons, and brachycephaly, on the other hand, to be markedly prevalent among the people living in the whole of Southern Germany (Baden, Würtemberg, Bavaria), Switzerland, North Italy, the Tyrol, Austria, Greece, and also France (especially towards the south). These facts are found graphically recorded on the *chart, showing the extension of* *dolichocephaly and brachycephaly*, which he published in 1860, shortly before his death, and which I have reprinted on p. 22 of my work, *Crania Suecica Antiqua*. When we are reminded that in the same chart he makes it clear how widely dolichocephaly prevails in Spain and the southern portions of Italy, we shall realise that his treatment of the subject really brought out the *essential elements of all that we know at present about this problem*. That is to say, the exhaustive and very careful investigations that anthropologists have carried out, since Anders Retzius' death, have confirmed and corroborated the theories which he enunciated half a century ago. One might remark that it was upon the basis of one single character, viz., the index of length and breadth of cranium, that Anders Retzius formulated this theory of his. This is on the whole true, for, in his writings, he refers almost solely to the shape of the head, the colour of the skin being mentioned only exceptionally. He alludes to the fairness or blondness of the Swedes, and, in the quotation from the year 1858 just cited, he says that the tribes prevailing in Tuscany, Lombardy, Piedmont, the Tyrol and Switzerland are *black-haired* brachycephali, but otherwise he touches upon neither the colour of the hair and the eyes, nor the stature and other measurements of the body. But the craniological character to which he directed his investigations in particular, viz., the relation of length of head to breadth, has proved, in spite of all efforts made to minimise its value, to be one of the most important factors in anthropological research.[1]

This character was moreover the divining-rod with which he discovered and was enabled to prove that Blumenbach's Caucasian variety is not homogeneous, but includes within itself different races or branches of the same race. This was also acknowledged very soon after Anders Retzius' death by Alexander Ecker, the distinguished anatomist and anthropologist, in his work entitled *Crania germaniæ meridionalis occidentalis*, published in 1865, where he says in the introduction: "Die Zeit liegt noch nicht fern hinter uns, in der man die Schädelformen der nur zur sog. Kaukasischen Rasse gerechneten Völker für nahezu gleich, jedenfalls einer näheren Untersuchang in Bezug auf etwaige Unterschiede nicht für werth hielt. Es ist unstreitig das Verdienst von *Retzius*, auf die Verschiedenheiten der Schädelform der europäischen Volkstämme aufmerksam gemacht und dieselben durch kurze, allerdings vielleicht zu kurze Bezeichnungen ausgedrückt zu haben. Heutzutage ist das Bestehen solcher Verschiedenheiten und die Wichtigkeit des Studimus derselben sowohl für die Ethnographie als die Geschichte unangefochten anerkannt."[2]

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[1] The ratio of length of head to breadth is, moreover, as Pfitzner asserts, one of the most constant of the characters, the one that alters least during the period of development as the individual grows older.

[2] That Anders Retzius was guilty at times of making mistakes, largely if not entirely by reason of insufficient or misleading material, we are perfectly willing to admit; thus, he was evidently mistaken in his verdict upon the shape of the cranium of the so-called Celts; on the other hand, with reference to the shape of the cranium of the Basques, which he put down as brachycephalic, thereby calling forth a severe reprimand from Broca after his death, it has been

I have dwelt at some length upon these points in the earlier history of physical anthropology, and especially of craniology, because they really contain the essence of the whole development of that branch of science, during the past half-century, regarding the question of the races of Europe, and particularly regarding the question I have selected for my lecture, viz., "The Anthropology of the Northern Race-branch of Europe." The phase in the history of anthropology here depicted appears, moreover, as above hinted, to have been, comparatively speaking, overlooked and neglected in recent times; one will too often find in recent literature an account of it devoid of real knowledge, yea, even partial and unjust.

It would now be interesting to pursue this sketch of the history of the development of our knowledge respecting the physical anthropology of the European peoples in the same manner as above, but the time allotted for this lecture does not permit of that being done.

Moreover, Professor Ripley in his detailed work, *The Races of Europe,* and Dr. Deniker in his comprehensive papers (on the "Cephalic Index" and the "Stature of the Body") as well as in his Huxley Memorial Lecture delivered in 1904, have already depicted the progress made during the last 50 years. I shall, therefore, only seek to bring out a few of the most salient points in very brief outline.

In that period of anthropological research it is possible to discern certain main currents and epochs :—

First, Carl Ernst von Baer, the great Russian natural scientist, after having put on record his appreciation of the impetus that Anders Retzius had given to this particular branch of research, craniology, devoted himself earnestly to its pursuit. Then the German anatomists, Hermann Welcker, Rudolph Virchow, Alexander Ecker, Julius Kollmann, Johannes Ranke and others, followed his example, and, thanks to their energy, more and more attention was paid to the subject. At about the same time the study was taken up with ever-increasing vigour and enthusiasm in France by Broca, de Quatrefages and Hamy, Topinard, Collignon, Bertillon, Manouvrier, Verneau and others, and also in England by Beddoe, Huxley, Thurnam and Davis, Busk, Cleland, Sir William Turner, Sir William Flower and others.

The formation of ethnological and anthropological societies also infused fresh life and interest into this line of investigation.

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subsequently shown that Retzius was considerably nearer the true solution than Broca himself. One might, furthermore, criticise his methods, inasmuch as he did not base his conclusions upon measurements of extensive series of crania, nor upon the measurement of large numbers of living persons, though he fully saw and appreciated the desirability of proceeding in that way.

The further criticism might be brought against him that besides parts and features of the body, *e.g.*, colour of hair, eyes, and skin, he only makes use for his investigations of the cranium, and leaves out of account the rest of the skeleton. It should, however, be remembered, that, at the time when he took up this branch of study, he was already somewhat advanced in life, and could only devote such time to it as he could spare from his multitudinous occupations as a teacher of anatomy, physiology, etc., and as head of a large medical college, in addition to other calls and duties. This explains somewhat the limitation to which his activity in anthropology was necessarily subjected.

Welcker, Virchow, Broca and Huxley endeavoured in the first place to improve the methods of inquiry in such a way as to render craniological investigation more systematic and accurate, by discovering some more rational way of applying the system of measurements and by determining upon what basis the system itself should rest. Virchow and Huxley endeavoured to fix upon a determinate axis in the basal section of the cranium from which measurements might be consistently made. Welcker busied himself with trying to bring to light the laws of the formation and structure of the cranium by following out the development of the skull from the age of infancy onwards. Virchow sought to elucidate the differences in shape of various crania from a pathological point of view, more especially such as arise from a premature coalescing of the sutures. Broca, who devoted his energy and inventiveness to anthropology with the utmost zeal and enthusiasm, devised new measuring instruments and tried to solve by their means a whole series of those problems that present themselves to an inquirer in this field of knowledge. Both he and Welcker, though independently of each other, found it necessary to introduce a definite midway group between the Dolichocephali and he Brachycephali; Broca named his middle group Mesaticephali (Mesocephali), and Welcker called his Orthocephali, the latter embracing the large series of all those with indices between 72 and 80. They also determined the boundary-lines for the indices, marking off the three classes one from another. Broca, however, went still further, for between each pair of these three (1 and 2, 2 and 3), he set a subordinate class, so that his system was as follows:—

Dolichocephali	with	cranial	index	75 or below.
Subdolichocephali	„	„	„	75·01 to 77·77
Mesaticephali	„	„	„	77·78 to 80.
Subbrachycephali	„	„	„	80·01 to 83·33.
Brachycephali	„	„	„	83·34 and above.

I have mentioned this in order to show that, owing to their subdividing the index-scale in this way, the theory enunciated by Anders Retzius regarding the signification of dolichocephali and brachycephali was wholly distorted and misapplied. Those names represented in his conception typical shapes of the cranium subject to expansive limits in each direction, so that all such variations in the shape of the head as are constantly to be observed among various peoples (latitude of variation) might find a place in one or other of the type groups.

Broca's minute subdivision reduced the terms to mere arithmetical conceptions with their fixed places on the scale. Thus, there would be no less than three of these subdivisions, Dolichocephali, Subdolichocephali and Mesaticephali, in which the long-headed Swedish people would be classed. Supposing terms for such minutely distinguished subdivision are necessary, other names should have been chosen so as to avoid confusion with the terms already in use in a different sense. As above arranged, they have caused no little misunderstanding in people's minds relative to this subject, and have made the whole study of the question complicated and obscure. Some anthropologists accepted Broca's subdivision, others only adopted his middle group (mesocephaly), while a third rejected that too and declared their adherence to the original two, dolichocephaly and brachycephaly, with the index number 80 as the boundary between them. I myself belong to the last-mentioned section.

Also, Huxley proposed a further subdivision of the forms of the crania by indices. He, however, retained brachycephaly and dolichocephaly as main divisions, with the index 80 as the boundary-mark between them, but subdivided the former into two, the latter into four sections, an arrangement which commends itself to me as greatly superior to Broca's. Huxley's scheme of subdivision is as follows:—

Index of 80 or upwards = I. *Brachycephaly*, round skulls.
„ „ 85 „ „ = (*a*) Brachistocephali.
Index below 85, of or above 80 = (*b*) Eurycephali.
„ „ 80 = *Dolichocephali*, long skulls.
„ „ 80, of or above 77 = (*a*) Subbrachycephali
„ „ 77, „ „ 74 = (*b*) Orthocephali } oval skulls
„ „ 74, „ „ 71 = (*c*) Mesocephali
„ „ 71, „ „ = (*d*) Mecistocephali, oblong skulls.

Welcker pointed out the importance of the ratio of the height of the cranium to its breadth, and drew up a classification of all the forms of the cranium to accord with the index that shows the ratio of height to breadth. He made out five groups, viz., Hypsistenocephali, Hypsibrachycephali, Orthocephali, Platystenocephali, Platybrachycephali.

As regards the features of the face, Welcker established a third group between prognathi and orthognathi, viz., opistognathi, and tried to determine limits for the three groups. Efforts were also made to find out a normal position, a fixed horizontal line for the cranium.

The length of the face from the root of the nose to the chin and its breadth under the eyebrows had, as we know, been measured by Anders Retzius and by his followers; they had also registered the measurements of the lower jaw. Those measurements were now, however, taken up with much greater eagerness and their indices were calculated. It was on those measurements that Julius Kollmann based his five types:—Leptoprosopic Dolichocephali, Chamaeprosopic Dolichocephali, Chamaeprosopic Mesocephali, Chamaeprosopic Brachycephali and Leptoprosopic Brachycephali.

It would take me too long to report here upon all the questions and problems that were brought forward, discussed and investigated in the domain of anthropological craniology during the last four decades of the last century. What must, however, be mentioned in this place is that the measuring of crania proceeded on a large scale, and often on the basis of very complicated systems; the crania measured were partly of people living in recent times, partly of those who died long ago. Remnants of skeletons from the Stone, Bronze and Iron ages, and also from the early part of the Christian era, had been found in ancient graves and were carefully preserved. Davis and Thurnam in England led the way by publishing their great work, *Crania Britannica,* in which they proved, among other things, that in the prehistoric graves there were to be found brachycephali and dolichocephali, the latter apparently in the more ancient of the graves. Virchow examined and described the crania discovered in the ancient graves in Denmark; Ecker those found in Southern Germany, etc. Several interesting results were arrived at, and as a whole the statements of Anders Retzius respecting the distribution of dolichocephali and brachycephali in modern times were confirmed; but it appears to be clear from them that the distribution of race elements was in many places different in earlier prehistoric times from what it is now; thus, for instance, the dolichocephali were much more prevalent in Southern Germany formerly than now.

But in addition to the investigation of crania on a large scale, other physico-anthropological characters were studied. I may here specially mention the inquiries started regarding the colour of *hair, skin* and *eyes.* Concerning this important chapter of anthropology, one of the authorities on the subject, Dr. John Beddoe, gave an excellent report in his Huxley Lecture in 1905, and I therefore beg to refer to that lecture of Dr. Beddoe with the special remark that he is one of the foremost pioneers in this particular line of investigation. It is also a pleasing duty to acknowledge that the grand anthropologist, to whose memory these lectures are devoted, Thomas Huxley himself, was very much interested in this anthropological character and often remarked upon its great significance. It was one of the leading principles on which he founded his division of the races of men, and it will certainly always occupy a prominent place in the system.

There remains, however, one more criterion of race to be mentioned, *stature* or *length of body.* This has, indeed, for a long time past been a point to which anthropologists have been attentive, and in the tabulated measurements of the recruits for the army they have been provided with material ready to hand for purposes of investigation. It was not, however, until towards the close of last century, when several special inquiries on a large scale were carried out in different European countries, that this character came by its rights and received due attention and notice.

Thanks to the systematic investigations made by fully competent persons regarding the most important anthropological characters of *large army contingents,* the distribution and numerical amount of these several characters have at last been made known for some of the nations of Europe, especially by Dr. Otto Ammon in Baden in 1886–1899 and by Dr. Rid. Livi in 1896–1905. A brief report of the results of all these investigations was given in Dr. Deniker's Huxley Memorial Lecture in 1904.

There are five principal characters that were made the subject of inquiry:—

1. *The length and breadth of the head,* and consequently the length and breadth index;

2. *The form of the face;*
3. *The stature or length of the body;*
4. *The colour of the hair of the head;*
5. *The colour of the iris.*

In conjunction with a number of more or less exhaustive investigations into certain of these characters for the same and other countries in Europe, such a general knowledge of the race-characters of the European nations has been obtained, that it has been considered possible to draw some general conclusions. Professor Ripley, of Harvard University, and Dr. Deniker, of Paris, have been specially occupied with summarising the general results of investigations in this department. The former gives three separate races called by him: "The Teutonic Race," "The Alpine Race," and "The Mediterranean Race." Of these the first two coincide with Anders Retzius' Dolichocephalic Germanic Race and Brachycephalic Central-European (Slavonic and Rhætian) Race. Dr. Deniker, on the other hand, went further in his subdivision of races; besides the three named he added some others, but has on different occasions arrived at somewhat different results. In his last publication, however, in the Huxley Memorial Lecture of 1904, Dr. Deniker fixed the number of European races at six, viz.—

1. *La Race blonde dolichocéphale, de très grande taille (La Race nordique).*
2. *La Race blonde, sous-brachycéphale, de petite taille (La Race orientale).*
3. *La Race brune, dolichocéphale, de petite taille (La Race ibéro-insulaire ou méditerranéenne).*
4. *La Race brune, très brachycéphale de petite taille (La Race cévenole ou occidentale).*
5. *La Race brune, sous-dolichocéphale, de grande taille (La Race Littorale ou Atlanto-méditerranéenne).*
6. *La Race brune brachycéphale de grande taille (La Race Adriatique ou Dinarique).*

Of these six races, two (Nos. 1 and 3) correspond roughly to the races defined by Ripley and other writers as the Northern and the Mediterranean. Their Alpine race on the other hand appears to be subdivided by Dr. Deniker into three (Nos. 2, 4 and 6), while No. 5 would seem to be an offshoot from the Mediterranean race of other writers. It is still very difficult to determine whether Dr. Deniker's last classification has yet reached the truth; a great deal of critical investigation on a comprehensive scale is still requisite, especially in the countries bordering on the Mediterranean Sea and Russia before a satisfactory answer can be given. But for anyone who has observed, for instance, the remarkably tall brachycephalic Montenegrins, it cannot—I agree with Dr. Deniker—but be repugnant to class that race with the short-statured Alpine race. As for the European population of Russia, a still more thorough inquiry is necessary before we are able to know their essential race-characters. The first problem there that presses for solution is whether the dark-haired, short-statured, brachycephalic elements really appertain to the same sub-variety as the Alpine race of Central Europe or not. Until a thorough investigation has made matters clearer, it seems to me to be wisest only to admit of the existence of such races as have really been proved, and to leave the classification of the remaining to the future.

The following may, however, be admitted as surely existing:—

1. *The Northern European Dolichocephalic, Blue-eyed Tall Race* = Anders Retzius' Dolichocephalic Germanic type, which has latterly been designated by several writers (Wilser a.o.) *Homo Europæus* (the term Linnæus used), and which is now often termed the Northern Race (La race nordique, Nordische Rasse).

2. *The Middle European Brachycephalic, Dark-haired, Dark-eyed, Short-statured Race,* probably closely related to the similar population in the eastern portions of Europe (Anders Retzius' Slavonic and Rhætian people). This race has been designated recently *Homo Alpinus* (Linnæus' term); there may be some justification for this term in the fact of a large section of the race being resident in the Alpine regions of Southern and Central Europe. But it should not be forgotten that this race during the lapse of centuries has extended its habitat to a considerable part of France and even to a large portion of Central and Northern Germany. Linnæus certainly did not mean this race by his term "Homo Alpinus," a fact already stated above.

3. *The South-European Dolichocephalic, Dark-haired, Dark-eyed, Short-statured Race,* called *Homo Mediterraneus* (Sergi, Ripley, Wilser, and others), which may possibly embrace variations of distinct character in the various Mediterranean countries.

To name only the first of these three races *Europæus,* as appears often to be the fashion now-a-days, seems to be very strange, since the other two great races, too, have inhabited Europe from times immemorial, and it is by no means possible of proof that they originated in other Continents and migrated into Europe subsequently. I consider, moreover, that it is an entirely incorrect use of the nomenclature, established once for all for zoology, to call these races "Homo Europæus," "Homo Alpinus," "Homo Mediterraneus," as is so often done in modern anthropological literature. This leads to a confusion of our ideas about *species.* They can, of course, only be regarded as variations of one and the same species, Homo sapiens, and in reality only as sub-variations of a variety, viz., the so-called white race of men. It is unfortunate that the notions, *species, variety,* and *race,* have not been more definitely fixed in value as regards the races of mankind. The majority of anthropologists are probably of the same opinion as Linnæus, that the living races of mankind at the present day are all to be referred to one species, *Homo sapiens* Lin., and that their variant representatives are to be regarded as varieties of the species, even though very weighty reasons might be alleged for regarding some of these variations as *species* themselves; this question has now lost much of its significance since the triumphs of the theory of descent, but it is of importance for the system and for the formation of terms. As regards the population of our own continent and the problems concerning them, it is of no great significance whether the white man, the European, is put down as a particular *species* or as a variety. But it is of real importance that its *subsections* should not be put down as separate *species.* For my own part, I am at present most inclined to agree with Linnæus and Blumenbach in regarding the great racial groups of the human species as varieties, though it must be admitted that the Australian, the Negro, and the American differ very widely from the European. There are to be found, however, remarkable transitional (intermediary) forms to bridge the gulf between the peoples of Asia and Europe, and there also exist similar transitional forms uniting the people of Asia with those of America and a portion of Polynesia. But if the term *variety* is to be preserved for the various large race-groups, we require a suitable term for the sub-sections under *Varietas.* Here to use the word *race* would not be the right thing, since the terms *race* and *variety* have long been employed as synonyms also for the *Varietates* of the human species. It seems to me, therefore, to be indicated that these sub-sections of the varieties should be designated as *sub-varieties* or *sub-races* (race-branches). This would mean for the population of Europe: *Varietas Europaea,* with three *sub-varieties,* viz., the *North European,* the *Middle European* and the *South European,* deriving their names from the respective main centres of distribution. Besides those there exist, as we know, two other race-branches among the population of Northern Europe, the Lapps and the Finns, who it is customary to assume to have immigrated from Asia, the proof of this still being far from absolute.

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It has, however, been recently proved with more and more certainty that Europe was formerly the home of another population very different from the race-branches above named, the so-called *Neanderthal race.* The finds of crania and skeletons at Neanderthal, Spy, Gibraltar, Krapina, and more recently at Le Moustier, La Chapelle-aux-Saints and Heidelberg, constitute, even though they are relatively few in number, a striking proof of this prehistoric race having been formerly widely spread throughout our Continent, though probably never very numerous. The question has been mooted, whether descendants of this race may still be found among the European peoples of the present day, since some of the cranial characters belonging to that race are still occasionally to be met; the opinions on this subject have differed very much indeed. During the last decade Professor G. Schwalbe has succeeded in showing, as the result of ingenious, scientifically exact, and methodical investigations of some of the ancient crania that have been found, what the peculiar and primitive race-characters of this primeval people were, and he has come to the conclusion that the race must be extinct. Whether the race ought to be regarded as a particular *species* or as a *variety* depends upon whether the races of mankind of low standard, that still are existing, are to be looked upon as species or varieties. According to my opinion, the Neanderthal race is a special variety of low standard,[1] which Huxley himself compared, as regards characters, with the still living aboriginal population of Australia. We do not, unfortunately, know anything about the colour of the skin of the Neanderthal race nor about the hair on their bodies, etc.; consequently a closer comparison is out of the question. From a scientific point of view a serious protest must be lodged against a number of fantastic and sensational attempts at reconstructing the external appearance of the Neanderthal race, which have been made with clay and colours by a number of irresponsible artists, intending to arouse interest among the uncritical public, and also against the journalistic efforts of certain writers who wholly lack the training necessary for giving an objective and critical account of the matter. It is by no means proved that the Neanderthal race occupied so very low a position on the scale of development from brute to man, either as regards its outward appearance or its psychical character, as certain fantastic depicters of it have tried to make out. Professor Klaatsch, who was the first to examine closely the other bones of the Neanderthal skeleton and to determine their race-characters, and who, in order to pursue Huxley's idea of the similarity between this race and the present day Australians, made anthropological researches in Australia for three years, has pronounced as his opinion that essential points of similarity are to be found in structure of the cranium and of the skeleton between the Australians and the Neanderthal race, but that they are to be regarded as separate branches of the common stem and that they have arrived at approximately the same stage of development. Professor Klaatsch being convinced that, with regard to the Australians, they do not occupy so low a position in psychical endowment as is generally supposed, standing in fact pretty high in several respects, especially in their faculty of observation and in their general standard of life, he therefore considers, that the same might have been the case with the people of the Neanderthal race.

I am not going, as I already mentioned in the introductory words of this lecture, to enter further upon a discussion of these highly interesting questions, tempting as it might be to do so. I have only touched upon the subject in order to point out that the Neanderthal race of Europe is not to be regarded as "the missing link," for it was considerably more closely connected with the existing races than was once supposed to be the case.

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[1] However, not content with having registered a special *Homo neanderthalensis or primigenius*, the nature of which as a separate species is still rather doubtful, some authors have gone further, for almost every find of palæolithic skeletons has been designated as a special kind of "Homo," such as "Homo Spyensis," "Homo Krapinensis," and, quite recently, "Homo Mousteriensis." That this is not correct and must be protested against, should be patent to every anthropologist and zoologist, the more so, since all the "Homos" mentioned are reckoned by most authors as belonging to one and the same species or variety. Instead of being termed "Homo," they ought to be called "Individuum Spyense," etc., and these "Individua" ought then all to be referred to one and the same "species" (*Homo neanderthalensis* or *primigenius*), or to one and the same "variety." The question of species or variety with reference to them cannot well be solved until new finds have been made, showing how great its variations were. The choice of the name "Homo primigenius" for these remains of skeletons seems somewhat premature, as they probably belonged to a lateral branch of the main stem and were preceded by other forms which would rather have merited that name.

It is even possible that the races that are now in existence, especially the North European, existed contemporaneously with the Neanderthal race, and displayed the features that are still characteristic of them at the present day. At all events the finds of crania belonging to the Cro-Magnon type point to that particular race having been, in a geological sense, developed in its essentials not so very long after the period to which the Neanderthal skeletons belong.

The investigations concerning the stages of development of the human species that have been made by Professor Schwalbe primarily, but also by others, as a consequence of the prehistoric finds that have been brought to light in Europe, constitute in themselves one of the most important contributions to anthropology that have been made in recent times. I cannot suppress a note of regret that Professor Huxley did not live long enough to witness this advance in the special branch of science here under discussion, for he had foreseen it and was instrumental in preparing the way for it. Science must continue to proceed, however, cautiously upon her pathway, and be constantly on her guard against premature conclusions. That principle was one that the great Huxley himself observed. In his excellent essay entitled "On Some Fossil Remains of Man," which appeared in January, 1863, he remarks at the close: "In conclusion I may say, that the fossil remains of Man hitherto discovered, do not seem to me to take us appreciably nearer to that lower pithecoid form, by the modification of which he has, probably, become what he is."

He adds too, in a note, a pronouncement of his own in another place, relative to the Neanderthal race as follows: "Inasmuch as a complete series of gradations can be found, among recent human skulls, between it and the best developed forms, there is no ground for separating its possessor specifically, still less generically, from *Homo sapiens*." It is interesting to compare with this a statement made by Professor Marcellin Boule in his preliminary account of the new find of a skeleton of the Neanderthal race, the one discovered in 1908 at La Chapelle-aux-Saints.

"Tout cela nous prouve que les origines humaines sont plus lointaines encore qu'on ne le suppose généralement. Des découvertes aussi importantes que celle de La Chapelle-aux-Saints nous apportent, certes, quelques lueurs nouvelles; mais il faut avouer qu'elles reculent le probleme plutot qu'elles ne le résolvent. Et c'est tout de même un précieux résultat."

As yet no genuinely transitional forms between the crania of the Neanderthal race and those of the race branches in Europe at the present day have been discovered in the prehistoric finds; the finds, however, of those prehistoric human skeletons have been so few in number, that there does not exist anything like enough material for definite conclusions to be drawn concerning them. The trend of opinion, however, as has already been stated, favours the assumption that the real Neanderthal race became extinct long ago, and that it yielded place to its rival, the "Cro-Magnon race" and its descendants, and to the other racial elements to be found in Europe now. The relics of the Cro-Magnon race hitherto found, point to our present North European dolichocephalic race branch having descended in direct line from that "race." It is consequently a matter for regret that a greater number of well-preserved crania have not been found to enable us to form a more complete and comprehensive acquaintance with the racial characters of this prehistoric people.

From the periods immediately succeeding that one, the Neolithic, the Bronze, and especially the Iron age, there have been collected from the graves in France, England, Germany, Russia, Denmark and Sweden a large number of crania and portions of skeletons. I have already published a survey of the investigations made on the crania found among those collections in the second chapter of my *Crania Suecica Antiqua* (1900, in German), to which I may beg to refer.

Here it must suffice to mention that both dolichocephalic and brachycephalic crania have been found in most of the countries named, in the graves of the Neolithic period, and that they vary in proportion one to another, though in general dolichocephaly is more preponderating. Thus Salmon discovered that, out of 688 crania belonging to the Neolithic period, found in France, no fewer than 397 were dolichocephalic, 145 being mesocephalic (the limiting index-numbers being 77 and 80) and only 146 brachycephalic. E. Pittard asserts that in Switzerland two races can be traced, succeeding each other in the Neolithic period: first, a race of short-statured brachycephali, who appear to have come to Western Europe from the north-east and south-east, and seem partly to have superseded the dolichocephali formerly to be found there, and partly to have intermingled with them, thereby producing mixed races; towards the close of the Neolithic period a fresh immigration appears to have taken place by a dolichocephalic and leptoprosopic race, while at the close of the Bronze age a fresh brachycephalic race appeared on the scene, which had become superior in numbers to the others by the commencement of the Iron age. The researches of His and Rütimeyer, in 1864, went to confirm the discovery made first by Anders Retzius and subsequently by von Baer, that at the present day by far the largest proportion (roughly three-fourths) of the population of Switzerland is brachycephalic.

It has already been remarked, that dolichocephali were found in preponderating numbers in the graves of earlier times in Germany, especially in the so-called "Reihengräber"; that was particularly the case in districts (*e.g.*, Bavaria, Würtemberg, and Baden) where the population of to-day is chiefly brachycephalic. This would appear to denote that the original Teutonic (Germanic) population of these parts of Germany has been displaced by the brachycephalic race-elements now resident there. Attempts, it is true, were made in certain quarters to explain this alteration in the character of the population by the assumption that the shape of the cranium had actually changed in the same race of people from a dolichocephalic type of a low grade of civilisation to a brachycephalic type of a higher grade, but that theory appears now to have been altogether relinquished.

As regards Russia, Anatole Bogdanoff has proved that the whole of Central and Southern Asia was formerly inhabited by a highly dolichocephalic race, which was more homogeneous than those in the European countries, and increasingly so the further back in time it is traced. It was not until a period not very remote from our own, he says, that brachycephaly began to become noticeable and to increase in amount to such an extent, that in our days it has largely superseded the dolichocephalic element. The data from the other countries in Eastern Europe tell the same tale.

From these finds, therefore, and the considerations to which they give rise, it seems as though we were entitled to conclude that for a long time past a shifting of racial elements has been proceeding on the continent of Europe, the brachycephali having driven out more and more the dolichocephali who were there before them. The latter can scarcely have consisted of any other people than the Teutonic (Germanic), whom it is best to term now the North European race branch. It is also to be taken for granted that the brachycephalic population, which by degrees usurped domiciliary rights in the country, belonged to that dark-haired brachycephalic race branch, the Middle European, which in our times is by far the preponderating one in those countries. Where that brachycephalic people may have emanated from is, as above said, up to the present wholly wrapped in mystery. It has been customary to trace it to Asia and to designate it as Mongoloid, but there are no real proofs of that supposition being correct. It is presumably more likely that its home was some tolerably limited region in Central or South-Eastern Europe, but that by rapid increase in numbers and owing to hardy qualities called forth in it, in accordance with the laws of the Darwinian theory, by the struggle for existence, it gradually spread, without having to carry on any real strife, further and further afield over the adjacent tracts of country, supplanting thereby the dolichocephalic (Teutonic) population already indigenous there. Lapouge, the French anthropologist, has characterised, as it appears to me in a trenchant manner, the differing psychical qualities of the two contending races in question. I regret that the shortness of the time at my disposal precludes my quoting the whole of what he says; the gist of it is, however, that the *dolichocephalic* individual of the North European race has considerable wants and always seeks to satisfy them, that he understands better how to gain riches than to keep them, that it is "easy come and easy go" with him. An adventurer by temperament, he hazards everything. He wages warfare for the sake of it, but not without some thought of his own betterment. His intelligence oscillates between narrowness and brilliance. The whole earth is his fatherland. The *brachycephalic* individual of the Central European race is, on the other hand, temperate, laborious, and economical. He is not short of courage, but he lacks warlike propensities. He is fond of farming and of the piece of land he has inherited. Though not wanting in cleverness he is seldom possessed of real talent. His aims are not lofty, but he works patiently to attain them. Distrustful by nature, even of progress, he is at bottom conservative; in religion he leans towards Catholicism, in politics he has only one aspiration: to secure State support. He is alive to the interests of himself and his family, and he seeks to promote them.

That characterisation is doubtless in all essentials perfectly correct. The merits and demerits of the two race branches are easily recognisable. As regards the North European race branch, the description fits the Scandinavian peoples excellently, both for prehistoric and present times. That is proved by the warlike venturesomeness and the piratical expeditions of the Normans and the Vikings of an earlier day, and also by the armed mercantile journeys of the Swedes and the Varangians to Russia and Byzantium in the ninth century, when they subjugated nations, founded kingdoms, and became soldiers of fortune for the sake of fighting, plundering, and carrying on trade in slaves.[1]

There are still to be seen a good many traces of that national temperament in the Scandinavian peoples. For my own part, I have for a long time become more and more afraid that that racial element will not be found to be suited for the conditions brought about by the direction in which civilisation is developing. The North European race branch cannot properly adapt itself to the demands made upon it by industrialism. It desires a freer, less constrained life, it lacks the endurance necessary for carrying on a uniform kind of labour, it has not the patience to stand chained to machinery day after day, year in year out, and to work like a machine itself. It requires high wages for a moderate amount of work and short hours, that it may have time to indulge in pleasure and enjoyment.

The brachycephalic individual of Middle Europe, on the other hand, seems to be far better suited for the demands of industrial life; he is satisfied with a little, is possessed of patience and endurance even when things are dull and dreary, and his work tiring and little remunerative; he is not so much addicted to expensive forms of recreation, but lays by money for his family and for old age. We have not as yet any statistics based upon anthropological research into the racial characters of industrial operatives, but, to judge by the information I have received privately, I should be inclined to conclude that wherever the two races are both available, it is the dark-haired, small statured brachycephali who are preponderatingly employed in industrial occupations. That is so especially in America. From Sweden, my own native country, emigrants continue to set sail in large numbers to certain of the North American States and to Canada; they less often take up work, however, in the service of industrialism. That is said to be the case too with emigrants from England, Denmark, and Norway.

There are two reasons for my stating these facts. First, in order to point out that there may lie in the circumstances to which I have called attention, a very real danger of the North European dolichocephalic race branch not being able to hold its own. Just as it has been ousted during the past thousand years from

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[1] *Cf. inter alia* Professor R. Weinberg's interesting disquisition on this point, in *Polit. Anthropol. Revue*, III Jahrg., "Rassen und Herkunft des russischen Volkes."

Germany and other countries in Central and Eastern Europe by the dark-haired small-statured brachycephali, it will probably have to yield place here too, and be reduced in numbers, perhaps by degrees disappear entirely out of the fatherland of its ancestors and itself, by reason of the ever-increasing might and power of industrialism with which it seems ill-fitted to cope successfully in the long run. The prospect is depressing, it cannot be denied, but the development of things in the world is not seldom harsh and unmerciful.

Doctor Roese in his work *Beiträge zur europäischen Rassenkunde* of the year 1906 seems to have come to similar conclusions: "Leider ist," says he, "der vorwiegend nordische Bestandteil des deutschen Volkes im langsamen Aussterben begriffen. Je rascher die neuzeitige Industrie-Entwicklung fortschreitet, und je länger sie anhält, um so rascher wird der nordische Bestandteil des deutschen Volkes sich vermindern,—falls nicht rechtzeitig auf Abhilfe gesonnen wird."

Latterly the attempt has been made, especially by German writers, to prove that the great advances which have been achieved in civilisation, in science, in art, and in literature, that discoveries and inventions, too, chiefly owe their origin to the offspring of the Teutonic race, to blond dolichocephali, not only in Germany itself, but in France, Italy, and Spain (Woltmann and others). Supposing this were true, what would become of the progress of higher civilisation, and of art and science in the future?

It has seemed well cursorily to touch upon these matters, because they give an indication of a new point of view as regards the work and aims of anthropology, which has asserted itself in the past few years, especially in Germany, viz., the importance of anthropology politically and socially; attention has been raised to the question of how far racial characters are hereditary through the ages, and also to the relative merits of the various race-elements, their various degrees of intellectual endowment, etc., as well as to the problem of the extent to which interference on the part of the State or society might be able to improve the races, or at all events prevent their degeneration.

It is not possible here to give a review of this, in many respects very interesting, movement in the science of anthropology, tending to explain the psychology and the inner characters of the different races and race branches, and to find out methods for their improvement. Through the researches and ideas of Sir Francis Galton and his school in England, and the important investigations and views of Dr. Otto Ammon and his followers—I will especially mention Dr. Roese in Germany and Dr. Lapouge in France—this new movement has been raised and developed. If guided by criticism, it promises good results also for the future. This field of research is indeed most interesting, but is also very dangerous and complicated.

These are actually important and also very delicate questions with which to deal, and several immature projects have already been ejected concerning them; certain proposals that have been put forward, however, may be worthy of mature deliberation, as containing a good deal of truth, though immense and perhaps in some degree insurmountable obstacles may prevent their being practically realised.

I desired to touch upon these modern movements, as they are intimately connected with our European race-questions, particularly with that of the dolichocephalic North European race element and its struggle for existence, *i.e.*, the question of what its chances are of being able to hold its own in the future in the struggle with the dark-haired brachycephalic, Middle European race-element.

This struggle, which has been going on during a series of centuries, silently for the most part and hardly perceptible, constitutes one of the most wonderful and interesting events in the history of the world and of humanity during the past thousand years. It is to anthropology, and above all craniology, that we owe the possibility of being able to discover its existence. If craniological research and—to cite Kollmann—Anders Retzius's discovery of dolichocephaly and brachycephaly, among the peoples of Europe, had not effected anything more, they would have accomplished not a little.

However, to be able to observe accurately the gradual moving of the race-elements, their growth and diminution, in the various countries of Europe, a thorough and extensive anthropological investigation *at fixed repeated intervals* would be required, of about the same character as those that have been carried out, on a single occasion, in a few countries, *e.g.*, Baden, Italy, and Sweden. Under such circumstances it is greatly to be regretted that the investigation that Professor Schwalbe planned on a grand scale for the whole of Germany and Austria was not realised, as a thorough and extensive inquiry regarding racial factors in those two large realms would have been extremely desirable. As far as England is concerned, the best anticipations may be entertained, inasmuch as the anthropological investigations in this country are in the hands of a competent and enlightened committee that is perfectly aware of the importance attached to their work, and who may be trusted not to shrink from overcoming whatever trouble, expenses, or other difficulties stand in their way.

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In my own country, Sweden, an anthropological investigation was carried out in 1897 and 1898, with the permission of our Government but at the expense of private persons. The investigation was carried out in the two annual contingents of recruits for our army, and comprised a total of 45,688 young men at the age of 21. 700 of these were from one cause or another, left as unsuitable for the inquiry, and there remained about 44,900 who were duly subjected to examination. The whole investigation was organised by myself in conjunction with Professor V. Hultkrantz, and was carried out by a staff of scientists and young physicians who were specially trained for the task. Among the workers Professors Hultkrantz, Carl M. Fürst, and Ivar Broman ought to be particularly mentioned.

The vast material collected was subsequently treated and elaborated under the direct guidance of myself, who had executed the inquiry in the provinces of

Dalecarlia and Westmanland, and of Professor Fürst, who had himself chosen the largest part of the inquiries, the provinces of Skåne and Blekinge. The work embodying the results of the investigation was published in 1902 under the title of *Anthropologia Suecica, Beiträge zur Anthropologie der Schweden.* It would carry me too far, however, were I to attempt here to give a survey of the contents of that book, which, moreover, are probably known in outline to all interested in the subject. I will, therefore, confine myself to quoting the final results merely, which are of special significance for a knowledge of the North European race branch.

The investigation included the following items, in addition to the place of birth of each individual (and of his parents); his height, when standing, and when sitting, maximum stretch of arms, maximum length and breadth of head, general shape of the face, colour of eyes and hair. The maximum length of the face (from root of nose to chin) and the bi-jugul breadth were only measured in the provinces of which I had charge (Dalecarlia and Westmanland). In the descriptive matter the measurements were dealt with by me, the colours by Professor Fürst.

The following were the principal results:—

1. The measurements of the length and breadth of the head showed that the mean for all the measurements led to the conclusion that in the whole of Sweden there were 87 per cent. dolichocephali and 13 per cent. brachycephali. This immense preponderance of dolichocephali was not evenly distributed throughout the country; it was still greater in some provinces, but less in others, though all over it was very considerable. The dolichocephali were found to be most numerous in a belt of country stretching right across from west to east in about the latitude of Stockholm, and also a little north of it. In Dalsland 95 per cent.; Södermanland nearly 95 per cent.; Dalecarlia, Härjedalen, Närke, Wästmanland 92 per cent.; Värmland 91 per cent.; Bohuslän, Öland 90 per cent., etc.; Stockholm City 88 per cent. To both the north and the south the percentage diminished somewhat. In Skåne it was 81, in Västerbotten 80, and in Lapland 76. These figures are easily explained, partly, in the more southern parts, by the immigration in the course of time of strangers of brachycephalic race type, partly by the presence in the more northerly parts of the brachycephalic Laplander population and of a considerable sprinkling of Finns. In no Swedish province, however, did the percentage of brachycephali rise above 20, 21, or 23·67.

It is thus quite right to call Sweden a domicile of dolichocephali, whereas in Southern Germany, Tyrol and Switzerland, the condition of things is exactly the reverse, the percentage of brachycephali being there approximately as large as that of dolichocephali in Sweden. That result by itself made it clear that the North European (Teutonic) race type is still preserved in Sweden to a very appreciable extent, greater indeed than anywhere else, so far as we know at present, and far more than in Germany, the ancient heritage of the Teutons.

In Norway, the neighbour of Sweden, no extensive anthropological investigation embracing the whole country has been made, but it is clear from the researches that have been carried on in scattered districts by Arbo and others, that the number of the dolichocephali preponderates considerably, especially in the easterly parts, but that in the south-western part of the country, along the sea-border, a large percentage of brachycephaly is to be found. No complete inquiry has taken place in Denmark either, but from the investigations made here and there it would seem as though dolichocephaly may be considered as by far more prevalent; brachycephaly, and mesaticephaly with a high ratio, however, are also to be found and not very sparsely either.

If now we compare these data for the state of things existing at present with the results yielded by an examination of the crania found in the prehistoric graves, we shall see, that, so far as it is possible to judge from the finds in the graves, there were indeed already in all three Scandinavian countries during the Neolithic period—a Palæolithic period of the really old type has not been discovered here—both dolichocephali and brachycephali, but the percentage of the latter was remarkably small. Of the 42 Stone-age crania from various parts of Sweden that are described in my work, *Crania Suecica Antiqua,* 39 are of dolichocephalic type (16 of them being mesocephalic) and only 3 brachycephalic. Out of a total of 51 crania dating from the Iron age, which were discovered in graves in various parts of Sweden (the majority, however, in the island of Gotland), 47 proved to be dolichocephalic (15 mesocephalic) and as few as 4 brachycephalic.

I considered that I was entitled to draw the conclusion, as a result of my investigation of this series of prehistoric crania, that the present population of the country are the descendants in direct line of that prehistoric people, and preserve to all intents and purposes the same racial elements as they had, even though new elements may have been introduced by immigration.

Professor H. A. Nielsen's treatise of 1906 on the anthropology of the prehistoric population of Denmark, shows that out of 119 Stone-age crania 83 turned out to be dolichocephalic, *i.e.*, 70 per cent. Nearly half of the 83 were genuine dolichocephali (47 per cent. with an index of 75 or below). Among the Bronze-age crania described by Nielsen one was found to be brachycephalic (index 81) and three more showed a tendency in the same direction (index 79). Out of the 35 crania dating from the Iron age in Denmark only one was brachycephalic (index 81) and two approximately so (index 79); of the rest no less than 25 had an index of 75 or below, and were consequently dolichocephali. The whole inquiry goes to show, as Professor Nielsen points out, that the conditions have been practically the same as those prevailing in Sweden and that the types of crania are similar on the whole to the Swedish, though there was a somewhat larger admixture of brachycephali during the Stone and Bronze ages.

2. *The Length of the Body* (*Stature*).—Professor Hultkrantz worked out the average height of 232,367 recruits for the citizen army, all of about 21 years of age, at 1·6951 metres, the mean measurements differing somewhat for the different provinces; thus, the tallest men were found in the provinces of Gothenburg, Jämtland and Västernorrland, and in the cities of Stockholm and Gothenburg; the inhabitants of Gotland, too, are tall of stature, whereas in other parts of Sweden,

such as the central part of the province of Småland, the stature of the men is less, the average being lowest for the most northern part of the country and for the most southern and the south-eastern districts.

The figures quoted in *Anthropologia Suecica* are in the main confirmatory of the results Professor Hultkrantz obtained, but our tables of figures and his are not quite commensurable.[1] Our average came out a little higher than his, viz., 170·88 centimetres. The maximum average height we found in Gotland and in Härjedalen (172·74 and 172·61 respectively); then came Hälsingland and Bohuslän 172·32 and 172·14); then Jämtland, Dalsland, Medelpad, Västergötland, Stockholm, Södermanland, Öland, Gästrikland and Ångermanland, all exceeding 171 centimetres. In no province but Lapland was the average found to be less than 170 centimetres. These figures give evidence of great uniformity in reference to stature for the country as a whole.

3. I must leave out here our results concerning *length of arm and leg, stretch of arm and form of face,* and speak of the *colour characters* dealt with by Professor Fürst. To take the colour of the eyes or the iris first, it was shown that there were 66·7 per cent. of the total number with distinctly light-coloured eyes (blue or grey), and only 4·5 per cent. with definitely brown eyes; the rest, 28·8 per cent., had eyes of a mixed colour. With respect to the colour of the hair the following data were obtained; 73·3 per cent. (*i.e.*, nearly three-fourths of all the 44,900 men examined) were fair-haired (yellow or flaxen); 21·6 per cent. had brown hair, 2·3 per cent. red hair, and only 0·8 per cent. black hair. These facts do not leave any doubt possible as to the Swedish nation being the fairest of all, unless the inhabitants of Norway or Denmark might compete with the Swedes for that distinction. The Provinces of Västergötland, Bohuslän and Halland show the highest, and the northern provinces the lowest average.

4. The results of the inquiry concerning the *combinations of the various race characters are peculiarly interesting,* but time forbids me to enter upon a discussion of that here. One point, however, may be given; the combination of *genuine* dolichocephaly (index below 75), tall stature (1·70 metres and upwards), fair eyes and fair hair, was still to be found in Sweden in 10·7 per cent. of the examined contingent of the population; for Dalsland the figure was 18·3 per cent.; for Södermanland, 16·2 per cent.; for Härjedalen 16 per cent.; and for Dalecarlia, 14·7 per cent. The purest Teutonic race-element was thus to be found evidently in the interior of the country, south of its centre-point, the pure type becoming rarer towards the coasts and also northwards and southwards.

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[1] That is due partly to the fact that in our investigation those rejected for shortness of stature had been already removed, and partly to the figures given by Professor Hultkrantz being calculated for the enrolment areas of the regiments instead of for the several provinces; moreover, the numerous cases of men in the regiments not hailing from that particular district were included without further ado and not discarded as they should have been. Finally, it may be remarked that the numbers in our tables are based upon measurements taken by persons specially trained for the task, and can therefore claim to be more accurate and exact. On the other hand, the contingents treated by Professor Hultkrantz were much larger.

From our inquiry the conclusion may be drawn that Sweden is inhabited by the purest population of the North European (Germanic or Teutonic) race branch to be found remaining in our time. This result has, moreover, served as a support for the theory recently enunciated and energetically defended by K. Penka and L. Wilser, that proclaims Scandinavia and the region adjacent to the southern part of the Baltic as the original home of the Teutons (Germans), in opposition to the dogma, so long accepted as incontestable, of their, or rather the Aryans, having originated in Asia, the Indo-Germanic theory of the philologists.

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The anthropological investigations, carried out during the past two decades on large military contingents, have thus, for three countries at least, afforded a knowledge of the race characters of the present inhabitants of those three countries. As each of those inquiries has dealt with one of the three principal European types of race, a thorough acquaintance with all three has been acquired.

The excellent investigation of the inhabitants of Baden, conducted and reported by Ammon, with the active aid of L. Wilser, has given an excellent insight into the present-day constituent elements of a nation belonging to the Middle European (Alpine), dark-haired, short-statured, brachycephalic race branch. In addition to that quite a number of less elaborate investigations have been made regarding this same type of race, carried out, some earlier, some later, by Ecker, His and Rütimeyer, V. Hölder, J. Kollmann, J. Ranke, Blind (for Germany and Switzerland); by Weisbach, Toldt, Tappeiner, Zuckerkandl and others (for Austria); by Broca, Topinard, Collignon, Lapouge and others (for France); by Houze (for Belgium); by Bogdanoff, Kopernicki, Zograf, Weinberg and others (for Russia).

Livi's magnificent investigation of the population of Italy, the results of which were published in the work entitled *Anthropometria Militare*, gives an excellent anthropological survey of the Mediterranean race-element, and also of the distribution of the middle European race element in Italy. There are, besides, researches on the same subject by Nicolucci, Mantegazza, Sergi, Ruggiere and others.

Finally the North European (Germanic), blond, tall and dolichocephalic race element, through the above-mentioned anthropological inquiry in Sweden reported and published in *Anthropologia Suecica*, by myself and Fürst, has been extensively examined and described just in that very country of Europe, where it is still to be found existing in the greatest proportion and in the highest purity. This race branch has likewise been studied to a greater or less extent in other countries where it is extensively distributed, for instance in Norway, by Arbo principally, but also by Larsen, A. and H. Daae and others, in Denmark by S. Hansen, Steensby and others, in Holland by L. Bolk, in Belgium by Vanderkindere, Houze and others, and, last but not least, in England by Dr. John Beddoe, to be mentioned in the first place, that Nestor of physical anthropology, who for more than half a century with never flagging zeal and industry, has devoted himself to the solution of the complicated problems that this branch of research presents, and furthermore in that country by Beddoe's followers, Browne, Haddon, Maclean and others.

Of special merit are the summary statements of the knowledge collected by different scientists made by Dr. John Beddoe in his *Anthropological History of Europe*, Dr. J. Deniker in his extensive *Surveys and Reviews* (1899 and 1908), and also by Professor W. Z. Ripley of New York, now of Harvard, in his great comprehensive work, *The Races of Europe* (1900), and this by showing partly what knowledge we have attained and partly what is still missing.

The results hitherto obtained by these researches should not be reckoned as small when the exceedingly complicated conditions are considered, and when it is remembered that during the lapse of many thousands of years and particularly during the later centuries the different race elements of Europe have been brought into connection with each other and have been intermingled. Under such circumstances it is rather astonishing that so many important results have been obtained. With the present restless growth of communications and the movement of considerable parts of the nations it is of great importance that these primary inquiries should be carried on with energy; very soon it will be altogether too late to obtain information regarding the present and former diffusion of the race elements.

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There are however some particular problems that constitute impediments to the advance of anthropological science and require a thorough investigation, before we are allowed to draw quite reliable conclusions about racial conditions. But these problems certainly belong to the most difficult biological questions which await solution. I shall here mention three of them. *One* of them is the following: "How large may we generally consider the *sphere of variability* (Variationsbreite) of the typical characters of the different races and race branches?" For this decides where the limit is to be placed between these races and race branches. In this respect the opinions of authors are rather different. Thus some anthropologists consider the Neanderthal type as a particular race, others as a separate species, while others again, as for instance Julius Kollmann recently, regard it as only a variation of the same race, which forms the present European race.

Another problem difficult of solution is that regarding the *laws of heredity of the racial characters of the human races.* Some anthropologists believe that the racial characters of the parents are inherited by the children partly in an unmixed or nearly pure form, partly in a mixed condition. Some other authors, for instance Kollmann, are inclined to be of the opinion that the mixed forms now hardly exist, or will soon be vanishing from the chain of the pedigree, so that finally only the purer race-types, or some of them, will survive. There is some reason to believe that the Mendelian law is valid also in respect to the human races.

A third important problem, difficult to solve, which is in a way connected with the last, is this: Are the race characters and, consequently, the races themselves *still alterable or already fixed*? Or, in other words, are the human races still obeying the laws of evolution or not? One would willingly be inclined to accept the former alternative, but certain proofs have not yet been presented. Amongst the anthropologists there are differing opinions about this question. Thus Professor Kollmann has already long ago held the view that since the Diluvium no change has taken place in the *essential* characters of the human races, only in the unessential, which are to be found within the limits of the sphere of variation. Other authors hold that alterations since that time not only have taken place but are still going on. Some of them even go so far as to pretend to be able to prove that amongst certain parts of the race branches in Europe, by the influence of culture, the whole length of the body has been augmented during the last century, and that the capacity of the skull has been increased during the last thousand years.

The last two statements being founded upon direct observations, I have considered it desirable to make investigations for controlling these pretended facts. As for the *bodily length,* I have not only taken into account the measurements of the army recruits during later times, by which an attempt has been made to demonstrate an apparent growth, but such an increase must be illusionary, depending upon an accelerated growth during the period of early manhood in consequence of an improved nutrition, which acceleration probably continues until the maximum size of that race branch is reached. In connection with my work on the skulls of the ancient Swedes (*Crania Suecica Antiqua,* 1899–1900), I have already undertaken an investigation of the long bones of all the ancient skeletons found in the graves of the Stone, Bronze and Iron ages in Sweden in order to calculate the bodily size of the ancient Swedes with the aid of Manouvrier's tables. But as these tables deal with a race branch other than the North European, I have always been hoping that before publishing the results of my measurements I should be able to control them by another table of measurements regarding this North European race branch.

Now Professor Hultkrantz has lately informed me that he has recently, without knowing of my investigation, undertaken measurements of a number of other series of long bones from our Iron and our Middle ages. I therefore placed at his disposal my series of measurements, in order that the greatest possible quantity of material might be assembled. Professor Hultkrantz has this summer accomplished a good deal of the work, and he has been kind enough to place his results at my disposal. I therefore beg here to give a short report of them. He will later complete his researches, and publish a detailed description of the results.

The long bones at his disposal were found in graves from the *Neolithic,* the *Bronze,* the *Iron,* and the *Mediæval* periods in Sweden. As they were but seldom found in such a position as made it possible to determine whether the different bones (humerus, radius, ulna, femur, tibia, fibula) had belonged to the same individual, it is impossible to tell how many individuals the bones represent. And in several of the series it was impossible with any certainty to distinguish the male from the female bones. Professor Hultkrantz is also of the opinion that the number of the different bones, especially from the Stone and Bronze periods, is still too small for drawing sure conclusions, and he therefore draws them only with some reserve. He, however, comes to the conclusion that during the *Stone* *period* the average size of the body of the men was (if we judge from the femora) 1·66 or 1·67 m. During the *Bronze* and *Iron periods* it seems to have been about the same, even if the measurements are suggestive of an increase. The bones from the *Mediæval period* (the year 1361), from a great battlefield on the island of Gotland, gave an average size of the body of 1·67 m. The recruits in the years 1887–8 in Sweden, according to Professor Hultkrantz' investigations, had an average length of 1·6903 m., in the years 1897–98 a length of 1·6996 m., and in the years 1907–8 a length of 1·7147 m.

Professor Hultkrantz comes to the conclusion that *he will not maintain more than that his inquiry has made it probable, that the mean length of the body during the Stone period in Sweden was less than in our age,* and that the difference seems to have been between 4 and 6 cm. Perhaps it has changed during different periods and in different parts of the country. *Probably the greatest increase has taken place during the historical period.* For this fact the relatively great increase from the fourteenth century until our age is suggestive, and particularly the rapid increase during the latest decades. In regard to the last-mentioned increase I may nevertheless point to the suggestion made above that there now may be more rapid growth during early manhood than was the case in former times, in consequence of better nutrition during recent decades.

As for the other question regarding the increase of the capacity of the skulls during the last thousand years, it was Broca who in his treatise, " Sur la capacité des crânes Parisiens des diverses époques " (*Bulletins de la Société d'Anthropologie de Paris,* tome iii, et plus tard dans les *Mémoires d'Anthropologie,* tome i, p. 348), was the first to raise this question and to publish observations upon it. He had at his disposal three series of skulls :—

	Number of skulls.	Capacity.
Series 1.—Skulls of the twelfth century ...	115	1425·98
Series 2.—Skulls from a burying-place, earlier than the eighteenth century.	117	1409·31
Series 3.—Skulls of the nineteenth century ...	125	1461·53
Total	357	—

It would carry me too far to refer more closely to the reasonings of Broca about the burial in these churchyards of the poorer or the higher classes of society, reasons and arguments which do not appear to me very convincing with regard to the conclusions made by him.

I shall here confine myself to the observation that for a satisfactory solution of such an important problem a much larger number of skulls is required; besides this it should have been necessary to be able to settle, at least in some degree, to what branch of the European race the skulls of the three series had belonged; finally, the sex of the individuals in each one of the series and also their age ought to have been taken into account.

To draw such important conclusions so positively from the average of the measurements of each of the above mentioned series, as Broca has done, can from a critical standpoint hardly be defended. His principal resolution was: "Je considère donc comme certain que, toutes choses égales d'ailleurs soit par suite de l'éducation, soit par suite de l'hérédité, le volume du crâne est plus considérable dans les classes supérieures que dans les classes inférieures."

Topinard, the pupil of Broca, who has repeatedly referred to these investigations of the master, became more and more cautious and reserved. In the year 1876 (*L'Anthropologie*) he declared: "La capacité crânienne paraît varier avec l'état intellectuel. Les crânes des Parisiens du dix-neuvième siècle sont plus capaces que ceux du douzième, ceux des sépultures particulières plus que ceux de la Morgue." In a treatise of the year 1882 (*Revue d'Anthropologie*, Sér. 2, 5), in which he gives a detailed account of these researches of Broca, he quotes the measurements of the cranial capacity of the master, but I do not here find his conclusions mentioned; Topinard, on the contrary, forcibly accentuates the importance of having large series of skulls, of being very particular in separating the male and female skulls, and of leaving out the hydrocephalic and microcephalic skulls.

In some anthropological works of later date, however, the opposite line, that of incautiousness, has been chosen. I shall quote only one of those works, Dr. G. Buschan's *Gehirn und Kultur* (Wiesbaden, 1906). After having mentioned the measurements of Broca and Topinard, which show an increase of the cranial capacity of 35·55 ccm. from the thirteenth to the nineteenth century, he adds (R. 2): "Mit Recht legten beide Beobachter diese ihre Ergebnisse dahin aus, dass die Grössenzunahme des Schädelbinnenraums auf Rechnung der zunehmenden Intelligenz und Kultur zu setzen sei." Buschan further quotes the observation of Emil Schmidt, that the modern Egyptians have lost 44·5 ccm. of the cranial capacity possessed by their ancestors: "Für diese nicht minder bemerkenswerte Tatsache lag die gleiche Erklärung wie oben auf der Hand; nur vice versa." The poor Egyptians have gone backwards in civilisation, and in connection herewith they have lost a portion of their cranial capacity, *i.e.*, of their brain volume.

Buschan has in his treatise above quoted brought together statements of some other authors regarding these questions.

He has also himself, using the horizontal circumference of the skull as measurement, made an inquiry concerning the population of the Rheinland (*Rheinländische Bevölkerung*); from this inquiry he draws the following conclusion: "Hiernach zu urteilen hätte der Schädelumfang von der Steinzeit an bis zu

Beginn unserer Zeitrechnung zugenommen, wäre dann weiter aber bis zum frühen Mittelalter zurückgegangen und erst von dann an wiederum angestiegen, allerdings mit einem erneuten geringen Rückgang im 19. Jahrhundert."

"Wir haben gesehen," says Buschan, "dass vermehrte Gehirnarbeit ein Wachstum dieses Organs zur Folge hat. Es fragt sich nun weiter, ob ein solches durch Übung an Volumen vermehrtes Gehirn sich *vererben* kann? Wenngleich die Vererbung erworbener Eigenschaften vielfach noch in Abrede gestellt wird, *glaube ich für meine Person* doch an die Möglichkeit einer solchen Übertragung."

On such facts, as here mentioned, this whole "theory" (or rather dogma) is based. It ought to be superfluous to criticise it in a more detailed manner. In his interesting book, *Beiträge zur Europäischen Rassenkunde,* Dr. C Roese has already delivered a good criticism of these views. But they are still often reproduced, especially as based upon the high authority of Broca.

Every person who is accustomed to draw strict conclusions from real scientific data will find that this theory of Broca's is based on far too slender arguments. So far as I knew his high love of scientific truth, I am inclined to think that Broca, if he had to judge now about the problem of this rapidly increasing capacity of the skulls, would himself hardly insist on maintaining the certainty of that theory.

Though I am, of course, in no way an adherent of it, I nevertheless thought it interesting to try to furnish some real proofs for my negation, and to make an investigation upon the Swedish skulls from the corresponding period, which are at my disposal.

In the Anatomical Museum of the Caroline Institute at Stockholm 133 Swedish skulls from past ages could be used for this inquiry, which skulls I have measured with the consent of the Director, Professor Erik Müller. And in the Anatomical Museum of the University of Uppsala, with the permission of the Director, Professor J. A. Hammar and of Professor V. Hultkrantz, Mr. Vallentin, the Assistant, has measured several series of skulls (424).

The Swedish skulls from the past centuries which have been measured thus amount to the number of 557. I am quite aware that this number is much too small to in any way give reliable results in so complicated a problem as that here discussed. But the number is nevertheless greater than that of Broca.

During this investigation I have also had the opportunity of convincing myself of the difficulty, even of the impossibility, of solving the problem by measuring some hundreds, or even thousands of such skulls collected in some old churchyards, where the mixture of different race elements and different sexes is often very difficult to discriminate, and where it is impossible to learn how far advanced in civilisation and culture the individuals there buried have been.

It would really be of very little use here to give a detailed report of this inquiry. The results of such an investigation depend above all upon an exact distinction of male and female skulls; but this is a rather difficult task, and not seldom we remain in doubt regarding the sex of the individuals. I shall therefore give only some few figures:—From the *Stone* period 14 male skulls gave a mean capacity of 1502 ccm., 4 female skulls a mean capacity of 1276 ccm.; from the Bronze period 1 male and 2 female skulls gave respectively 1510 and 1266; from the Iron period 17 male and 5 female skulls gave respectively 1503 and 1294 ccm. From the older Mediæval period 15 male and 15 female skulls gave respectively 1441 and 1286 ccm. From the later Mediæval period 30 male and 30 female skulls gave respectively 1476 and 1291 ccm. Fifty other male skulls from three churchyards in different parts of Sweden gave the mean capacity of 1435 ccm. Forty male skulls from a churchyard (in a real Swedish centre of culture), which was used during the fifteenth, sixteenth and seventeenth centuries, gave a mean capacity of 1417 ccm., which is less than the average figures from the mediæval age and still less than those from the Stone, Bronze and Iron periods. Mean figures also of such insignificant value, I got from the other churchyards of the Mediæval period and of the later centuries. If only some more skulls of a higher capacity instead of a lower had been found, which is often quite dependent upon chance—the mean capacity of the series might have been brought up and risen to a remarkably high standard. Like Dr. Buschan, I think we ought to be very careful in drawing conclusions from average figures—and I have in my former anthropological works, now more than thirty years ago, repeatedly urged caution with regard to them. They may be of value, but they are also dangerous. In this particular case they have indeed been dangerous because first so great an authority as Broca and then after him several other authors have drawn conclusions of great importance from such doubtful data. These data and similar conclusions have already been quoted as certain in books written for the general public and for school-children, who accept them as confirmed facts. It is for this reason that I have attacked them here in rather strong terms.

I also take this opportunity here to warn workers in the field of anthropological research generally against drawing conclusions from uncertain facts and passing them on to the public. We have during the last year witnessed how the newspapers and journals in almost all civilised countries have abused the latest anthropological discoveries in the south of France, and furnished the most fantastic descriptions and illustrations of the palæolithic human skeletons found there. Professor Klaatsch in his last treatise about them also protests against this profanation of science. It is indeed of importance that all lovers of true science should do all they can to resist this thirst of the great public for sensational stories, which bring true science into discredit. The great public, as well as the scientists, ought to be conscious of the great difficulties connected with anthropological science and should not draw hasty conclusions.

* * * * * * * *

It is not my intention here to furnish any programme for anthropological research. It would require the time of a whole lecture at least. I shall in closing this address only point out a few things, which are of special importance for the study of the European race. As to the knowledge of the descent of this race and its different branches we must wait with patience for the discovery of many more authentic, old, palæolithic human skeletons and relics. And regarding the investigations of the recent race-elements we ought to continue to collect all the testimonies which are of value for the solving of the problems, *i.e.*, the testimonies in the graves as well as among the *living* peoples.

As to the latter I want to repeat the proposal which I have already made here, that in *every country there ought to be arranged every 25th or 30th year a thorough anthropological scientific investigation of the population,* as extensive as possible—and above all on the fullgrown men—in order to investigate *what changes it has undergone during the preceding period.* And then in every country the anthropologists also ought to choose some special fields for their investigations and there particularly investigate those portions of the nations which possess the purest racial characters. In this respect I myself long ago (in 1873) chose the province of Dalecarlia in Sweden, where I have collected a good deal of material for such a research, and I hope some time to have an opportunity of giving a thorough account of this very interesting portion of the inhabitants of my native country. As proposed in the Preface to the *Anthropologia Suecica,* such a thorough investigation of the population in the Swedish provinces, and then, especially, also in those where the anthropological differences, above all the dolichocephaly and the brachycephaly, are more numerously represented, ought to be undertaken as soon as possible.

It is, however, not so easy to find enough trained workers in this field, and the expenses for such investigations and for the publication of them are not inconsiderable. There are therefore several obstacles to overcome. I suppose the same difficulties are to be found in most countries.

The nations and their Governments do not yet understand the high ideal and social importance of the anthropological investigation of the populations. Their sympathetic and material support is very desirable in this vast and arduous field of scientific research.

With the lapse of time this work is becoming more and more complicated and difficult to accomplish. In connection with rapidly improving inventions in the domain of communications, population is becoming more and more mobile. If we are to learn to know the real characters and the present distribution of the race elements, it is necessary that the thorough anthropological inquiries above mentioned should be made as soon as possible. It will then be easier in the future to understand that mixture of the peoples, which certainly is going on with constantly increasing rapidity and intensity.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.[1]

By C. G. Seligmann, M.D.

[With Plates XXIV–XXXIII.]

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Western Papuo-Melanesians.

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In the last number of the *Journal* I endeavoured to classify the ethnic groups into which, in the present state of our knowledge, it is possible to divide the Papuans and the Massim (Eastern Papuo-Melanesians). Before proceeding to discuss the Western Papuo-Melanesians in the same way I desire to make certain corrections in the first part of this paper. The third paragraph on p. 252 begins with the words "All Papuo-Melanesians," the words "Many but not" should be prefixed to this sentence. On p. 255 the words "to anything like the same degree" should be added to line 27 at the end of the first paragraph.

As already explained on p. 253 I use the term Western Papuo-Melanesian to include all the tribes lying between the Papuans in the west and the Massim in the east. I do this with full appreciation of the fact that some of the scarcely known tribes which are thus included among the Western Papuo-Melanesians may later be shown to be modified Massim, or even to be the result of the fusion of Massim and Papuans, or of Massim, Western Papuo-Melanesians and Papuans.

I have already referred on p. 267 to tribes of mixed origin living in the neighbourhood of Cape Nelson and containing both Papuan and Papuo-Melanesian elements. Probably such tribes also exist inland in the neighbourhood of the 150th parallel of latitude, but as yet we know nothing of the physical and cultural characteristics of the inland tribes in this neighbourhood, though if they are of mixed origin, it is but reasonable to suppose that they have arisen from the fusion of Massim and Papuans. Although we know more of certain of the tribes of the western division of the Papuo-Melanesians than we do of any other Papuasians, our knowledge of all except a few tribes occupying the coast or its immediate hinterland is very incomplete. Physical measurements of a small number of individuals have been taken, and the chief features of the social system common to the majority of the tribes that fringe the sea coast have been observed, but there is little or nothing known concerning those tribes which live inland.

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[1] The first part of this paper dealing with the Papuans and the Massim appeared in the first half-yearly number of the current volume of the *Journal* on pp. 246–274 (*supra*).

It is, however, certain that the tribes of the western division of the Papuo-Melanesians vary among themselves, both in physical and cultural characteristics, far more than the Massim who are comparatively homogeneous in cultural characteristics, and in physical characters show a more or less orderly change from west to east, from short-statured dolichocephaly to brachycephaly associated with increase of stature.

For these reasons I do not purpose to follow the logical plan of beginning at one end of the coastal zone inhabited by these tribes, and successively describing them in orderly sequence, but I shall take first the best known tribes around Port Moresby and then describe the less known natives to the east and west of this centre.

THE LAKWAHARU GROUP.

The Motu is the strongest as well as the best known coastal tribe of the central division, and its organisation is typical of that of a number of tribes of this district. In spite of this, I have not given its name to the group of tribes, of which it is the most important member, in order to avoid the confusion which would arise from the recognition of a group called Motu in addition to the tribe of that name. Lakwaharu, the name proposed for the group, is the tribal name of the inhabitants of Tupuselei, who physically and culturally scarcely differ from the Motu tribe with whom they are generally classed. Indeed any slight differences that may exist are probably to be explained as the result of intermarriage of the Motu with the Koita, so that the Lakwaharu may really be more pure-blooded than most Motu among whom intermarriage with the Koita has taken place. This was first pointed out to me by Captain Barton, who believes the Lakwaharu tribe to be purer Motu than the Port Moresby Motu who are generally regarded as typical Motu.

The villages of the Lakwaharu group include the great Hanuabada (Port Moresby) settlement and stretch coastwise from Kapakapa to Redscar Head. Within this group I also include three tribes, the Ikoro, the Gaboni, and the Sinaugolo, representatives of whom are found near the coast in the neighbourhood of Kapakapa. The two first mentioned are small tribes whose villages lie within a few miles of the sea. The Sinaugolo are a powerful tribe whose settlements extend from the edge of the hilly country some three miles from the coast behind Kapakapa, up the valley of the Kemp Welch River and its tributaries, the Hunter and Musgrave Rivers. For all practical purposes the Ikoro and Gaboni may be included among the Sinaugolo, and probably it will be found on careful inquiry into their history that they represent early migrations of the same stock.

Both tribes speak dialects of Sinaugolo which itself is spoken as far inland as Mount Douglas (Karaigoro) running eastwards as far as Babaka Dobo behind Hood Bay and westwards to within three miles of Kapakapa. Taboro, a dialect of Sinaugolo, is spoken in the neighbourhood of Taborogoro (the traditional place of origin of the Sinaugolo), and this dialect runs east through the hills at least as far as Ikea on the upper waters of a river which appears to be identical with the Upugau.

With the Motu must be reckoned the Koita, a tribe speaking a Papuan language who have for generations intermarried with the Motu and whose villages are usually built near, or even in direct community with, those of the Motu. Although the Koita still speak a Papuan language, the majority of the males, at any rate in the eastern moiety of the tribe, speak Motu, a Melanesian language, and have adopted to a greater or less extent certain Motu arts and customs, such as pot making and the *hiri*, the annual trading voyage to the Papuan Gulf. Fifteen Motu, in whom there was avowedly more or less Koita blood, gave an average cephalic index of 77·2 (min. 71, max. 91). If the average index of only fourteen of these be taken—*i.e.*, the unusually high index of 91 be omitted—the figures become 76·2 (min. 71, max. 81). The average stature of these men is 1·621 m. (about 64 inches), but this includes one exceptionally tall man of 1·820 m. (71¾ inches). The physical characteristics of the men of this group will be readily appreciated from the figures on Plates XXIV and XXV.

Plate XXIV, Figure 1, represents five young men of Tupuselei village, *i.e.*, members of the Lakwaharu tribe, and shows the typical, rather round, face with not very prominent features. One of these youths has slightly oblique eyes, a matter to which I shall return later.

The slighter, more round-faced man in Plate XVI is one Rahu, a Motu of Tanobada, one of the Port Moresby villages; this youth's father, Gamea (Plate XXIV, Figure 2), is a very typical Motu in his late prime. Plate XXIV, Figure 3, is a Gaile man with a rather longer and narrower nose than is altogether usual, though individuals of this type occur in all the Motu villages. Figures 1 and 2 of Plate XXV are full and side face views of Ahuia, the chief of the Hohodai Koita, a man of pure Koita blood as far as his genealogy can be traced. It will readily be seen that he is of the same physical type as Rahu. The more coarsely-built man in Plate XVI is Garia, also a pure-blooded Koita according to his genealogy, and actually a relative of Ahuia. As has already been mentioned, his coarser type of feature must be assumed to be due to Papuan influence, and men of this build and type of face are by no means uncommon in the Motu and Koita villages. Finally Figures 3 and 4 of Plate XXV show respectively a thoroughly typical Motu youth and girl from Port Moresby. I have given a number of photographs of members of this group because they illustrate the amount of variation that occurs in a single group which, as far as historical and cultural evidence may avail, is no less pure-blooded than any other coastal group of this division of Papuo-Melanesians.

Precisely the same variations occur among the Sinaugolo (including the Ikoro and Gaboni) where a "Papuan" type, resembling the man shown in Plate XVI, is by no means uncommon, though the majority of individuals are softer featured. I am, however, of the opinion that, generally speaking, the Sinaugolo are somewhat longer faced than the true Motu.

It is among the Lakwaharu group that the open ceremonial platforms called *dubu* attain the maximum of importance, greater prestige being attached to the right than to the left side, and the chief of the clan (Koita, *iduhu rohi*) being that man who is the hereditary owner of the right front post of the *dubu*.

The Kabadi are a weak tribe inhabiting the coastal zone between the mouth of the Aroa River and Galley Reach, into which the Vanapa River discharges. Their ethnic position is uncertain and I have little first-hand information concerning them. The only Kabadi men that I have seen were visitors at Port Moresby, and their appearance and language suggested that they were closely related to the Motu. On the other hand, a story I heard in Mekeo attributed the origin of Kabadi to immigrants from Mekeo, and the dancing head-dresses worn by the visitors at Port Moresby certainly suggested Mekeo influence. Further, Dr. Strong tells me that instead of *dubu* the Kabadi have club houses, which in a general way resemble those of the Roro. Probably the element forming the basis of the Kabadi belongs to the Lakwaharu group, though it has become modified by the reception of immigrants from Mekeo and perhaps from Roro.

The coastal tribes of the Lakwaharu group (Motu, Koita, Lakwaharu, Kapakapa) and of the Keapara tribe, which will be described immediately, are the people who are best known as the builders of the marine villages of pile-houses, which are found dispersed over nearly 100 miles of coast line in the Central Division.

THE KEAPARA GROUP.

Passing eastwards along the coast a somewhat different type of man is met from the Hood Peninsula extending eastwards as far as the Aroma villages, the most important of which is Maopa. I do not know whether this group extends further to the east than the Upugau River, provisionally we may consider this to be the eastern limit of its component tribes which I propose to speak of as the Keapara, this being the tribal name of the inhabitants of Kerepunu and Hula, the two best known villages of the group. The men of the Keapara group are on the whole taller and more brachycephalic than their eastern neighbours. Few measurements are available from the Hood Peninsula villages Kalo, Babaka and Kamali, but two Babaka men measured by Dr. Haddon were 1·733 m. and 1·650 m. high with cephalic indices of 80·3 and 74·7 respectively.

Fifteen Hula natives measured by the same authority gave an average cephalic index of 82·9 (min. 78·5, max. 86·5). The average height of these men was 1·664 m. (min. 1·610, max. 1·715). Hula migrated about 30 years ago from Alukune, the fishing village associated with Kerepunu in Hood Bay, and Kerepunu itself is predominantly brachycephalic, while Sergi[1] records a skull from Aroma with a cephalic index of 81. Figure 1 of Plate XXVI represents a man and woman of Hula. Although I have seen little of Kerepunu I have measured one Kerepunu man 1·821 m. (71¾ inches) tall, and have seen another probably as tall; while the unusual stature of Koapena, late chief of Aroma, was a matter of common knowledge. Curly and wavy hair is remarkably frequent among the natives of the Keapara group, being specially common at Aroma. It is not without significance that of the five men of this group whose photographs (taken by Captain Barton) I have, only two have frizzly hair, that of the other three being wavy; I do not, however, suggest that this is the proportion throughout the group, it certainly varies locally, and may I think be definitely stated to attain its maximum at Aroma, where, if I remember rightly, Captain Barton estimated that perhaps 20 per cent. of adult males have hair that is not frizzly. Figure 2 of Plate XXVI and Figure 1 of Plate XXVII show full face and profile views of three Aroma men.

THE KEVERI GROUP.

Very little is known concerning the tribes between Aroma and Mullins Harbour, where the territory of the Massim begins. I have, however, seen a number of natives said to come from the Keveri valley a few miles from the coast behind Cloudy Bay, and the difference between them and the Keapara group was very striking. They were shorter, darker, and all had frizzly hair; besides this they were more long-headed. Thus the average height of eight men was 1,584 mm. (62⅜ in.) and their cephalic index 78 (min. 71, max. 83). Although so little is known about this part of the Possession I consider it legitimate to form a provisional group to include these people, who at present are the type and only representatives of the group. These natives were said to resemble the coast natives of Cloudy Bay, and like them to be specially fierce and little amenable to Government influence. A skull with a cephalic index of 69 from Domara, some fifteen or twenty miles to the east of Cloudy Bay, has been described by Sir W. Turner.[2] Perhaps this skull should be considered as derived from a member of this group.

MAILU GROUP.

The Mailu inhabit the country around Port Glasgow and Milport Harbour. They are predominantly mesaticephalic with an average cranial index of 78·6 and a medium stature of 1,600 mm. (about 63 inches). Their skin colour is generally a light *café au lait* and their hair is sometimes curly rather than frizzly. Although speaking a Papuan dialect their appearance strongly suggests admixture with some other stock.

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[1] *Le Varietà Umane della Melanesia.*

[2] *Challenger Report*, Part XXIX, 1884, p. 88.

The Mailu include the most eastern Papuan-speaking tribes of the south coast reaching to Orangerie Bay, of which, however, they only occupy part. The other portion of Orangerie Bay is inhabited by tribes speaking a Melanesian dialect, doubtless the most eastern of the Massim dialects of the south coast. Very little is known of the tribes in this part of New Guinea; their linguistic relations have been studied by Mr. Ray,[1] and Captain Barton informs me that on the physical side all the Orangerie Bay natives are Melanesian rather than Papuan. My own very limited experience agrees with this. I have measured four Bonabona men, said to come from the eastern portion of Orangerie Bay, who had sailed as far west as Port Moresby in one of their own outrigger canoes. These men resembled the Mailu in general appearance but were more brachycephalic (average 82, min. 79, max. 84); nevertheless a dolichocephalic element may exist in this neighbourhood, for there is a skull (No. 1201 B) with a cranial index of 70·5, said to be from Orangerie Bay, in the Museum of the College of Surgeons. In a volume now in the press I have summarised the little that is known concerning the social organisation of the Mailu, and have shown that the Mailu social fabric is essentially that of the Western Melanesians, nevertheless there is abundant evidence that Massim influence has also been exerted there. Captain Barton's series of photographs and drawings of the tattoo patterns used by the women of Mailu indicate that many of these patterns are identical with those used by the Massim of Rogeia and Teste Island. Further evidence is to be found in pottery made by the Mailu. The appearance and texture of these pots suggests that they have been made by the method of coiling used by the Massim. They are ornamented with designs scratched on the clay while still soft, and in many cases these designs are identical with those used by the Massim.

The Bonabona canoe, already mentioned, was a small dugout with a single outrigger, its depth being increased by a board a few inches deep lashed to its sides and ends. A single mast supported the oblong mat sail characteristic of the Massim. The whole craft was very lightly built.

THE RORO GROUP.

Returning to the Central Division the first well-defined coastal group west of Galley Reach and Redscar Head (the limits of the Lakwaharu Group) may be called the Roro, the name of the group being derived from the best-known of its component tribes which, from east to west, are Marihau, Roro, Paitana, Waima (Maiva), Bereina and Kevori.[2]

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[1] *Reports of the Cambridge Anthropological Expedition to Torres Straits*, vol. iii. See especially the second map between pp. 288 to 289.

[2] The Roro-speaking tribes occupy a territory about the mouth of the St. Joseph river extending from Kevori, east of Waimatuma (Cape Possession) to Hiziu in the neighbourhood of

The Waima and Kevori speak a dialect which differs from that of the more eastern members of the group; the people of these two tribes have been considerably influenced by the proximity of the Papuan Gulf, and their members present two distinct physical types, one identical with that of the Roro tribe, the other longer faced and approaching the Elema in size and vigour. Ignoring the Waima and Kevori tribes, the average cephalic index of thirty Roro men measured by Dr. Strong was 79 and their average stature 1·617 m. (about 63½ inches).

Figures 2 and 3 of Plate XXVII, for which I am indebted to Dr. Haddon, are full face and profile views of a typical Roro man and youth. Plate XXVIII, Figure 1, represents two Waima men; the less profusely ornamented is decidedly of the Elema type.

On the cultural side the Roro group are sharply differentiated from their coastal neighbours to the east by the absence of the *dubu* and the presence in each clan (often in each local group of each clan) of one or more club houses (*marea*), which are closely associated with the chiefs of the clan or local group. In considering the *dubu* of the Lakwaharu group mention was made of the greater honour attaching to its right than to its left side. Among the Roro this distinction has been carried a stage further, the high chief of a clan or local group is called the *ovia itsipana*, *i.e.*, chief of the right, and on certain ceremonial occasions takes his stand to the right of the middle line of the club-house, while the *ovia awarina*, *i.e.*, the chief of the left, is subordinate to him and in certain ways acts as his executive officer.

THE MEKEO GROUP.

The two important tribes of this group are the Biofa and the Vee, inhabiting the alluvial flat of the St. Joseph river above the coastal zone occupied by the tribes of the Roro group. A small but uncertain number of villages on the middle reaches of the Biaru River must be considered as ethnographical annexes to Mekeo, for physically and in their customs generally they resemble the Mekeo folk, among whom they have formed many colonies and with whom they intermarry.

In ultimate composition the Mekeo population no doubt agrees with all other Western Papuo-Melanesians, that is, it is the result of the fusion of an incoming race with a Proto-Papuan stock. With regard to its proximate composition, a recent mountaineer element can be distinguished. The Lapeka or Rapeka, a tribe living some ten miles to the east of the St. Joseph River and some twenty miles from the coast, have for a long time traded and married with the Mekeo.[1] A party of

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Galley Reach. But Hiziu and the village of Nabuapaka are comparatively recent colonies; and Delena, which is in part composed of the descendants of a Roro-speaking stock, should probably be considered the eastern limit of the Roro district. Marihau is now a very weak tribe represented only at Delena.

[1] My informants held that the intercourse between Rapeka and Mekeo was formerly more considerable than at the present day.

Rapeka men whom I met on one of their visits to Mekeo would have passed for natives of Mekeo although speaking a different language. Dr. Strong, who has visited the Rapeka tribe, writes that there is no doubt that they are essentially Kuni (a Melanesian-speaking mountain tribe), modified by contact with the inhabitants of the Mekeo but still speaking the Kuni language.

The men of the Mekeo group are distinctly brachycephalic; the average of twenty-nine men gave the high cephalic index of 83; the average stature of the men of the same group 1·585 m. (62 inches). With regard to the cephalic index, another series of sixteen, measured by Dr. Haddon, gives a rather lower index, and not only is the average index 80 lower, but this series also contains individuals with indices of 76 and 77, *i.e.*, lower than any in the first series. Perhaps this should be taken as a more typical series, since six men from Tatikaro on the Biaru River gave an average cephalic index of 80 (min. 76, max. 84).

There is a great deal of variation in the colour of the skin and character of the hair in all the natives of the Mekeo group. Curly and wavy hair is by no means uncommon; further, there is considerable variation in the type of feature, as will be obvious on comparing the photographs of the two young men shown in Plate XXVIII, Figure 2, with that of Opungu Ongopaina, the high chief (*lopia fäa*) of Inawi (Plate XXIX, Figure 1).[1] With regard to the latter it should be noted that such dignified and even aristocratic faces as this, though not common, are not very rare.

Captain Barton took the photograph of the two young men shown in Plate XXVIII, Figure 2, to illustrate, as far as possible, the characteristics of the dark and light types that occur in Mekeo, and it thus registers, so far as an ordinary photograph can, the difference in depth of colour in the skin of the two types, the skin of the lighter being of a yellowish brown or very light *café au lait* colour.

The language of Mekeo resembles that of Roro, but presents peculiarities in the phonetic system, such as the frequency of aspirates and gutturals, which Mr. Ray thinks may point to Papuan influence.

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[1] This man's family history has been traced back by Father Egidi for seven generations to one Maino Amaa who lived at Ioiovina, the historic site of origin of the Biofa, whence they spread to found Inawi and many other villages in Mekeo plain. The genealogies collected by Father Egidi indicate that Maino Amaa had among his children three sons; two of these, Amewa Kaiokuau and Opungu Kaiokuau, were among the first of their *pangua* to leave Ioiovina, crossing the river and settling between the present sites of Inawi and Inawae. From the beginning the war chieftainship was in the family of the descendants of Amewa Kaiokuau; the high chieftainship (*fäa* chieftainship) was not in, and did not come into, the family until four generations ago, where the *fäa* chief was publicly shamed at a feast by one of his wives, and so made over his authority and its symbol, the lime gourd *faonga* used only by chiefs, to an ancestor of Opungu Ongopaina descended from Amewa Kaiokuau. It is thus clear that Opungu Onpopaina has had ancestors of importance for at least seven generations, and his physical type may fairly be taken to be that of the hereditary nobility of the tribe. He was measured by Dr. Haddon in 1898, who found that he was 1·565 m. (61½ inches) high, and that his cephalic and facial indices were 79·2 and 76·8 respectively.

THE POKAO GROUP.

I am indebted to the Rev. H. M. Dauncey for the information that Pokao is the name that the inhabitants of the now extinct village of Vanuaboada, near the present Vanumai, applied to themselves, and also for the information that the whole of the area often spoken of as Nara has been peopled from Vanuaboada. Pokao is thus a far better and more natural group-name than the majority of those I use in this paper; further, it is used by the missionaries of the Sacred Heart and by Mr. Ray (who spells it Pokau) as the name for the language spoken by the members of the group now under consideration, who occupy a few square miles of land lying east of the Roro-speaking villages on the lower reaches of the St. Joseph River, extending eastwards nearly as far as the Aroa River.

The communities of the Pokao group are remarkable for the large number of their members who have curly, wavy, or almost straight hair, while many of their women have unusually light skins.

Plate XXIX, Figure 2, is a photograph of a Pokao woman with wavy[1] hair, for the loan of which I am indebted to Mr. D. Ballantine. The narrow, somewhat oblique eyes, wavy hair, and comparatively light skin of this woman make a picture totally unlike that of a typical Papuasian. The nose, though Papuan in its coarse and overhanging tip (a characteristic I have noticed in a number of women combined with wavy hair), has a well-shaped bridge and adds to the striking effect of the face.

It is scarcely less surprising to find a number of boys with the hair and physiognomy shown in Plate XXIX, Figure 3, running about the villages.

Although the Pokao say that they originally came from inland and regard themselves as inland people who have migrated towards the coast, there can be no doubt that they represent a wave of immigrants who made their way inland, where they formed settlements, which they occupied for long enough to allow them to forget their connection with the sea. Doubtless they intermarried largely with the aborigines of the country among whom they settled, but in spite of this I am inclined to consider these comparatively light-skinned and often wavy-haired people as the least modified descendants of the original immigrant stock, which must be regarded as the ancestors of the present Papuo-Melanesians. Measurements were made of twenty-five adult natives of Oroi and Diumana villages, of whom fifteen were males. The average cephalic index of these men was 75 (min. 70, max. 81), their nasal index averaged 83 (min. 73, max. 93), and their facial index 84 (min. 79, max. 88). The average height of twelve of these men was 1·679 m., about 66 inches. The cephalic index of ten women was 73·5 (min. 70, max. 80), their nasal index 79 (min. 64, max. 95), and their facial index 86 (min.

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[1] In section such hair is almost circular, thus contrasting with the elliptical section of typically frizzly Papuasian hair.

80, max. 95). The average height of nine of these women was 1·576 m. (about 62 inches). The hair of only one woman was frizzly, that of the others being either wavy or curly. I do not, however, suggest that the whole of the feminine population presents anything like this proportion of wavy or curly hair; the natives perceiving my interest in wavy hair pushed forward those of their number with hair most nearly straight.

Among the men the percentage of wavy and curly hair was much smaller, for though some selection of wavy- and curly-haired men undoubtedly occurred, seven out of fourteen men examined are noted as having frizzly hair, while the remainder had hair which was curly or wavy, and in one case straight though not lank.

It is obvious that people presenting these physical characters cannot be other than immigrants, in spite of their own belief that they are inland people who have been forced towards the coast.

It is probable that a small tribe called Doura, living to the east of Pokao on the east bank of the Aroa river a few miles from the coast, should be included in the Pokao group. The language spoken by the Doura closely resembles the Pokao, and the Doura told Dr. Strong that they formerly lived in the Pokao district, but that they were driven thence by the Pokao. On their dispersal a part of those who did not settle at Doura fled to the Kabadi village of Matapaile, while the remainder travelled westwards to the Papuan Gulf, where they settled on the Cupola, a rocky promontory immediately to the south-east of the Kerema. At the present time there are two settlements of people, whom the Elema tribe regard as strangers, on the Cupola, and another small one at its foot, near the Elema village which is known to the Motu as Silo. But the evidence that the strangers have come from Doura is far from convincing, for language is the only test at present available, and its evidence does not support this hypothesis.[1]

So far we have dealt with a series of groups of Papuo-Melanesians inhabiting the coast or the country immediately behind the coast (in which case they have constant friendly intercourse with the coast natives), all of whom have certain characters in common, *e.g.*, the more or less frequent occurrence of curly or wavy hair, and a rather light bronze skin, which in every tribe, so far described, presents individual variations running through the whole gamut of shades, from a lightish yellow with only a tinge of brown to a tolerably dark bronze colour The lightest shades are everywhere uncommon, and in many localities appear to be limited to the female sex[1] in whom wavy, as opposed to frizzly, hair seems to be much commoner than among men, at least in its more characteristic forms.

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[1] Dr. Strong has collected a vocabulary of the Tate language which is spoken on the Cupola. This has been examined by Mr. Ray, who considers that the Tate language is Papuan but quite distinct from the Elema, Namau, and Bamu groups of Papuan dialects and also from the Papuan languages of German New Guinea. Further, although in the Tate language there are some words similar to Roro, Mekeo, Pokao and Kabadi, these apparently Melanesian words are all (except five) words which in the four languages mentioned are unlike Melanesian.

With regard to the forms of nose found among these tribes the variety is very great, as will be obvious on glancing through the plates. Many noses have high roots even when the nostrils are broad; some noses, though unlike the negro nose, can only be described as "snub." Noses which seen in profile can best be described as "semitic" are common, though as far as my experience goes they always lack the extreme coarseness of the nose figured in *Notes and Queries on Anthropology* (Plate IV, No. 8), as "Australoid or Papuan." It may, I think, be said that almost every type of nose except the *retroussé* may be combined with this; a few aberrant forms of nose occur, and I remember one Sinaugolo who had a high-bridged "Duke-of-Wellington" nose.

On the cultural side the most obvious characteristics of the whole group is the predominance in the decorative art of what Dr. Haddon has called geometrical designs. This essential unity of design is most readily seen in the tattoo patterns of the women of these groups which, if Aroma be excluded, may almost be spoken of as identical.

Such essential unity as this does not exist, or if it does, cannot at present be detected among the groups of natives who form the next series to be discussed. Broadly speaking these may be summarised as the hill and mountain men, who occupy the hinterland of that part of the coast that is not inhabited by Papuan tribes. The majority—perhaps all—of these tribes speak Papuan languages, but, as far as I know, none of them have the stature and bulky Papuan physique such as characterises the tribes of the Mamba and the Elema stock of the Papuan Gulf.

Further, individuals with curly hair occur in some of these tribes, though their number is very small. Like the coastal tribes just described I regard all the tribes of this series as being the result of the mixture of Proto-Papuans and immigrant Melanesians. Although the tribes of this series are very little known, I believe it is possible to define certain groups.

THE KOIARI GROUP.

Koiari is the term used by the Motu and their neighbours on the coast for the tribes inhabiting their hinterland, *i.e.*, the foothills and the lateral spurs of the main range. It is also the term applied by Mr. Ray to the several dialects of the language spoken by a number of tribes (all hill men or mountaineers) whom I include in the Koiari Group. I have not been able to satisfy myself that Koiari is actually the name of a given tribe, though as stated by Mr. Ray (*op. cit.* p. 351) this may be the case; certainly the name seems to be loosely applied to the inhabitants of many small settlements in the Astrolabe Range behind Port Moresby, and may thus have come to be regarded as a tribal name.

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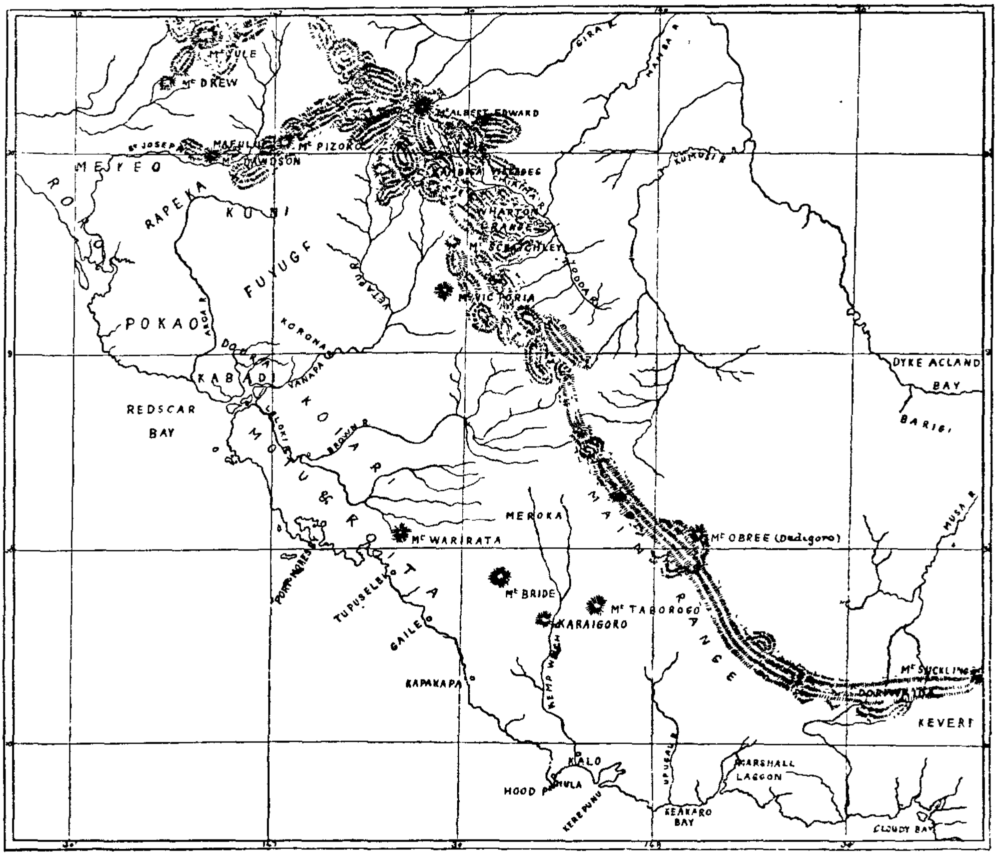
[1] I believe that the life led by Papuasian girls precludes the possibility of a specially light skin being due to lack of exposure to sun and weather, though I am aware that these factors are almost certainly operative in other parts of the world, *e.g.*, in Sarawak, where the daughters of chiefs may from this cause be distinctly lighter coloured than commoners. The lightest skin colours occurred only in a few girls, who, though always yellower, were surprisingly little darker than dark south Europeans.

I regard the following tribes as belonging to the Koiari Group: Gasiri, Sogeri, Uberi, Ebe, Agi, and Meroka. All these live in the hinterland of the Motu tribes. With the possible exception of the Irumi, who live on the slopes of Mount Bride and are said to speak a Koiari dialect, the Meroka appear to be the most easterly tribe of the Koiari group, while to the west the Vanapa river may be regarded as their boundary.



SKETCH MAP OF PART OF BRITISH NEW GUINEA.

Measurements taken on the living (10) show that the Koiari are mesaticephals with an average stature of 1·582 m. (rather under 63 inches); there is, however, a curious discrepancy between the index calculated from measurements taken on the living and from skulls. Whereas the former (10) average 78 and show a min. of 73 and a max. 83, the average cranial index of seven Koiari skulls collected in the neighbourhood of Port Moresby is 70 with a min. of 67 and a max. of 73. The crania in question include three skulls collected on the road to Wariratta, and the explanation of the discrepancy is probably to be found in the fact that most, if not all, these skulls have been collected within 20 miles of Port Moresby. On the other hand, some of the living subjects measured come from further inland, whence no skulls have been collected, if we except the single Kokoda skull already mentioned, with a cranial index of 77, collected by Captain Barton from the neighbourhood of Mount Victoria, which may perhaps be attached to this group. Plate XXX shows a number of men belonging to the tribes of the Koiari group. None of the men in this photograph have the full beards worn by the majority of the older men. Plate XXXI, Figure 1, shows the full beard worn by a man of Meroka who, to judge by his photograph, is unusually fat for a Papuasian. Many Koiari wear a moustache, and it is not very uncommon for the hair of the face to present a tinge of red or ginger colour.

THE KAGE GROUP.

Men of much the same build and height as the Koiari are met in the higher mountains behind the Koiari zone. Captain Barton states that these tribes speak dialects akin to Koiari, but that they are distinguished in their native mountains by the sporran-like garment worn by the men. Four of these mountaineers, measured by Dr. Haddon, had an average cephalic index of 81 (min. 78, max. 83), and an average stature of 1·613 m. (63½ inches).

The men of some of these sporran-wearing tribes, living in the neighbourhood of the "Gap" at a height of over 5,000 feet, are described by Captain Barton as rather light-skinned men, of excellent physique and pleasant unconstrained manners. Plate XXXI, Figure 2, shows a group of men from the neighbourhood of the Gap. Their appearance conclusively shows that, in spite of coming from the heart of British New Guinea and speaking a Papuan language, they possess more Melanesian than Papuan blood.

THE GARIA GROUP.

The Garia is the best known of a number of tribes who live to the east of the Koiari territory, and speak dialects of a Papuan language which differs from the various Koiari tongues.[1] Hence the name Garia may be usefully applied to the group of which this tribe is the best known representative.

The Garia dialects—for there are two forms of a stock language spoken by different tribes of the group—are spoken over a considerable area to the west of the Kemp Welch River, which constitutes their eastern boundary.[1] The headquarters of the tribes speaking them may be regarded as the Governor Loch Range, whence they have spread in a westerly direction towards the coast, the most westerly tribe, the Manukoro, being in contact with the coastal folk behind Gaile. Twenty men of the eastern branch of the Garia, inhabiting the neighbourhood of the western bank of the Kemp Welch, gave an average cephalic index of 77 (min. 72, max. 86), and were predominantly mesaticephalic. Four skulls which I collected from the bush in the immediate neighbourhood of the Garia village of Gosoro are, however, all brachycephalic with an average cephalic index of 81·2, a discrepancy which emphasises the necessity for the examination of large numbers. The average stature of twenty men is 1·603 m., and their general appearance suggests that the Papuan element, though present, is decidedly subordinate. This idea receives support from the character of the nose, the root of which is often moderately high with a tip that is seldom hooked, as well as from the fact that their hair may be curly or even wavy. In this and in many cultural matters they resemble their neighbours the Sinaugolo who speak a Melanesian language.

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[1] It seems likely that language will long remain an important factor in the differentiating and grouping of the comparatively little known tribes of the Main Range and its foot hills.

Plate XXXI, Figure 3, represents two Garia men. The man with short hair and wearing no ornament is Geboka Namo, the hereditary chief of the Garia, formerly also the leader of the Sinaugolo in war. Like his father before him, he is undoubtedly the most influential native in the whole hinterland of the Central district. The figure seated beside him is his brother.[2]

I have seen and measured only five men speaking the Manukoro dialect, belonging to the Lakumi tribe who inhabit the upper reaches of the Hunter and Musgrove Rivers. As far as this limited number goes, they seem to be rather taller and more dolichocephalic than the eastern Garia, and one of them had curly hair which was almost wavy. Behind the Garia and rather to their east, in the mountains between Mount Potter and Mount Obree (Dudigoro), are found the Kokila tribe, speaking a language which Mr. A. C. English calls Barai, and which it appears he considers nearly related to the Garia. Six men from the village of Seramine were mesaticephalic, with an average cephalic index of 77 and a stature of 1·578 m. (62 inches).

Although I collected no specimens of this language my information was to the effect that the Kokila or Barai language was distinct from that of the Garia, and this opinion is shared by Mr. Ray.[1] I was told that the Barai language is also spoken by a tribe whom the Kokila call Koki, while a dialect of the same language is spoken by the Koriko tribe somewhat to the south of Mount Obree. Mr. Ray mentions an extinct language which he calls Mulaha, which was formerly spoken by the coastal neighbours of the Manukoro, and an almost extinct dialect called Iaibu, a vocabulary of which has been collected and published by Mr. A. C. English.[2] I have heard of a language, called Mulaha, used in the hills stretching eastwards from the Kemp Welch River behind Kwaipo to the hinterland of Keakoro Bay, but (even supposing my information to be reliable) I do not know whether this is the same language as that mentioned by Mr. Ray.

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[1] These dialects may be termed the eastern and western Garia or perhaps more simply be named after the two best known of the tribes which speak them respectively. The Manukoro (western) dialect is spoken by the Manukoro, Lakumi, Iove, Medena, Ganai, Vegofi, Maru, Keberi, Dua and Unama tribes or communities, for although some of these names apply to tribes it is possible that not all do. The Garia (eastern) dialect is spoken by Garia, Gosoru, Gea, Usia, Wasira, Girabu, Geresi.

[2] The likeness between Geboka Namo and his brother is quite obvious and taken with the history of his family clearly indicates that his physical type fairly represents that of the aristocracy of the tribe. His height is 1·625 m. (64 inches), C. I. 78·3, Fac. I. 85·7, Nas. I. 74·6. The root of the nose is high and rounded, and except that the temporal muscles would be regarded as being unduly developed the features of this subject might be those of an intelligent European.

THE KOVIO GROUP.

The relationship of the various tribes inhabiting the mountainous hinterland of Mekeo, Nara and Kabadi is one of the most complex problems presented by the ethnology of British New Guinea.

With a single exception our knowledge of these tribes is extremely limited; some speak Papuan languages, others Melanesian, but even a slight acquaintance with these people shows that language is not a criterion of race, for broadly speaking the members of these tribes are alike in general appearance, being short, dark, and frizzly-haired. The sociology of the Kuni, the best known of these mountain tribes, has been described recently by Father Egidi,[3] and it may be that the customs of all these people show a substantial agreement.

The women all wear a narrow perineal band instead of the petticoat of their eastern neighbours the Koiari, and all inhabit small settlements of an impermanent character perched on the summit of razor-backed ridges. These collections of houses are generally stockaded and often defended by spear pits. As the tribal names of these people are doubtful or scarcely known, we may speak of these mountaineers as forming the Kovio group, Kovio being the name for Mount Yule around which these tribes are distributed. Some of the communities of this group, inhabiting the head waters of the St. Joseph and its tributaries, build suspension bridges across these torrents.

Plate XXXII, Figure 1, represents a group of Kuni men; it will be noted that most of them have Melanesian features. They are mesaticephalic with an average (15) cephalic index of 78, and although they are short, the average of eight men being only 1·542 m. (60½ inches), their stature is by no means so low as that of the men of some of the communities living in the mountains further inland.

The Kuni speak a Melanesian language which Dr. Strong considers is remarkable for the paucity of its numerals. "It extends over a considerable area, including the small districts of Rapeka, Idoido, Keakamana, Devadeva, and is also spoken for some distance up the Dilafa valley."[1] With regard to Rapeka, this people has undoubtedly come into close contact with Mekeo, and has contributed towards the peopling of the Mekeo plains; it is therefore not surprising to find that the Rapeka "certainly use some Mekeo numerals."

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[1] *Op. cit.*, p. 354.

[2] *Annual Report*, 1900–1901.

[3] "Casa e Villaggio, Sottotribu e Tribu dei Kuni," *Anthropos*, vol. iv, 1909.

It appears that no other Melanesian language is spoken as far inland as the Kuni, and the mountaineers around them speak Papuan languages. These almost unknown people may provisionally be called the Kamaweka, a term suggested to me by Captain Barton, which is used by some of the Mekeo tribes for the inhabitants of the higher mountains. Measurements taken by Dr. Strong show that the Kamaweka are among the shortest of the natives of British New Guinea. Eleven men, from the neighbourhood of Inauvorene on the Inava river, give an average stature of 1·487 m. (58½ inches), the extremes being 1·378 m. and 1·625 m. with only one man exceeding 1·575 m.

The average cephalic index of these men is 78. I have seen only one man from the Inava valley, the youth shown in Plate XXXII, Figure 2, but I am told that not all his fellows present the same repulsive appearance.

The Mafulu, whose villages run eastwards in the mountains behind Mt. Davidson and Mt. Pizoko, are almost as short as the men of Inauvorene and are even more roundheaded. The average height of seven men, measured by Dr. Strong, was 1·513 m. (59½ inches). The tallest man was only 1·602 m. while the shortest measured 1·482 m. The average cephalic index of these men is 80 (min. 76, max. 85). "These people have a heavy throwing spear and a narrow shield some 6 feet long, made from the section of a tree trunk. They also have a short bow, about 3 feet long. Although their villages are defended by palisades and pitfalls, they build tree houses. They have large gardens of sweet potatoes occupying the fairly open country, which in those hills is found at a height of from 4,000 to 6,000 feet."

Further east, and situated in the heart of the main range, are the Kambisa villages visited by Mr. C. A. W. Monckton and the Rev. P. J. Money in 1906. The illustrations of numerous objects collected by Mr. Monckton during his journey allow of no doubt but that these people are related to those living in the neighbourhood of Mount Yule.[2]

South of the Mafulu and east of the Kuni are found a people speaking a Papuan language which Dr. Strong calls Fuyuge. I shall therefore apply this name to the folk speaking this language. Thus defined, the term includes the Korona settled immediately behind the Kabadi and Doura, who speak Melanesian dialects. The eastern extension of the Fuyuge language is unknown, but Dr. Strong states that "it certainly comes into contact with dialects of the Koiari group of languages."

Sir William MacGregor has described the natives of Mount Scratchley, which he visited in 1896 during his journey across the island, and although I have no measurements of these people and have never seen them, his description and the photograph reproduced in Plate XXXII, Figure 3, indicate that these mountaineers are Papuo-Melanesians and not Papuans. Sir William writes : " These people are of unusual interest on account of their geographical position. In colour they are of a dark bronze, a shade darker than the coast people of the central district, but much lighter than the men of the Fly Estuary. They are fully up to the average size of Papuans,[1] and many would be described as being bony and wiry rather than muscular. They are much larger men than those of the islands and of many parts of the east end of the island. Amongst the something over a hundred natives present there was not one with straight or wavy hair ; and there was only one man that could be called hairy. . . . The young men wear the hair plaited into small cord-like divisions, often not thicker than a crow quill, but usually with some stripes of leaves, red and yellow in each plait. The elderly men wear their hair short and unplaited. . . . The young men wear the eyebrows in the natural condition ; the elders cultivate whiskers, but vigorously depilate the rest of the face, a fashion that gives them a somewhat grotesque clerical appearance. They have good, high foreheads, brown eyes, the lips inclined to be thick, the cheeks rather broader than ordinary, and the chin stronger. In short, their features are a trifle more robust than is usual in the central coast district. . . . The older men use the perineal band and girdle, made of native cloth ; the young men dress in the same manner, but the great peculiarity of their costume is that the parts concealed by the perineal band anteriorly, are enveloped in leaves till the whole reaches the bulk of a child's head. The object of this was not clear. The women, who appear short, especially of leg, compared with the men, also wear a perineal band, but in most cases they use over this a grass petticoat that reaches from the waist to the knees. In addition to this they wear a sort of mantle made of a piece of native bark cloth about 2 feet broad and 2½ feet long ; it has a running string along the upper edge, by which it is made to half envelope the head, and is kept in position. They are not rich in ornaments, and the artistic sense is not well developed in them. They do not tattoo, and they have no cicatricial ornamentation : the septum of the nose is pierced, but no one wore anything in it. . . . So many men were without the upper incisors, or without one of them, that it could hardly have been the result of accident."[2]

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[1] This and the following passages in inverted commas are quotations from Dr. Strong's manuscript notes.

[2] *Annual Report* 1905–1906.

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[1] It is obvious that Sir William does not use the term Papuan in the sense in which it is defined in this paper.

[2] *Annual Report*, 1896–1897, Appendix C, p. 7.

ADDENDUM I.

The Agaiambo.

Nothing is known concerning the population of the lower mountains on the northern side of the main range or of the northern foothills, though Mr. Monckton has told me of small moderately light-coloured hill-men who until recently raided the Collingwood Bay villages. The Agaiambo inhabit a vast morass inland from Ketakerua Bay, *i.e.*, in the hinterland of the Barigi country, and the discovery of this tribe gave rise to the accounts of "web-footed" Papuans which were widely circulated some years ago.

The Agaiambo have been visited by Mr. Monckton, Sir Francis Winter, and again by Captain Barton. Sir Francis Winter states that they have occupied the swamp for a time that extends back beyond native tradition. "At one time they were fairly numerous, but a few years ago some epidemic reduced them to about forty. They never leave their morass, and the Barugi assured us that they were not able to walk properly on hard ground, and that their feet soon bleed if they try to do so. The man that came on shore was, for a native, middle-aged. He would have been a fair-sized native if his body from his hips downwards had been proportionate to the upper part of his frame. He had a good chest, and, for a native, a thick neck; and his arms matched his trunk. His buttocks and thighs were disproportionately small, and his legs still more so. His feet were short and broad, and were very thin and flat, with, for a native, weak-looking toes. . . . The skin above the knees of the man was in loose folds, and the sinews and muscles around the knee were not well developed. The muscles of the shin were much better developed than those of the calf. In the ordinary native the skin on the loins is smooth and tight, and the anatomy of the body is clearly discernible, but the Agaiambo man had several folds of thick skin or muscle across the loins, which concealed the outline of his frame. On placing one of four natives of the same height alongside the marsh-man we noticed that our native was about 3 inches higher at the hips. . . . The woman, who was of middle age, was much more slightly formed than the man, but her legs were short and slender in proportion to her figure, which, from the waist to the knees, was clothed in a wrapper of native cloth."[1]

Although the Agaiambo speak a Papuan language which Sir Francis says is the same as that spoken by the Barigi, they are not Papuans. This is indicated by their short stature and by their skin colour, which Mr. Monckton tells me is distinctly lighter than that of the true Papuans. They must accordingly be classed as Papuo-Melanesians, but whether as aberrant Massim or as Western Papuo-Melanesians is uncertain. Figures 1 and 2 of Plate XXXIII are full face views of two Agaiambo; Figure 3 is a profile of one of these men.

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[1] *Annual Report*, 1902–1903, pp. 14, 15.

ADDENDUM II.

Oblique Eyes in Papuasians.

These were first recorded by O. C. Stone,[1] who, writing of the Koiari, says that in a few " the eyes are *slightly* Mongolian like those of Siamese." I have myself seen oblique eyes among the Koita, the Motu, the Pokao (cf. Plate XXIX, Figures 2 and 3), and at Hula, while Captain Barton has noticed them at Aroma. Oblique eyes are often narrow, *i.e.*, the palpebral fissure is narrow and the epicanthus may be tolerably well marked. Oblique eyes may be associated with curly, wavy, or almost straight hair, but they also occur in individuals with typical frizzly hair as in the Hula youth shown in Plate XXXIII, Figure 4.

Explanation of Plates.

PLATE XXIV.

Fig. 1.—Group of Motu youths. (Capt. F. R. Barton.)
„ 2.—A typical Motu. (Capt. F. R. Barton.)
„ 3.—Young adult of Gaile. (Capt. F. R. Barton.)

PLATE XXV.

Fig. 1.—Ahuia Ova of Hohodai village. (Dr. A. C. Haddon.)
„ 2.—Ahuia Ova of Hohodai village. (Dr. A. C. Haddon.)
„ 3.—A Motu youth from Elevara. (Capt. F. R. Barton.)
„ 4.—A Motu girl of Port Moresby. (Capt. F. R. Barton.)

PLATE XXVI.

Fig. 1.—Man and woman of Hula. (Capt. F. R. Barton.)
„ 2.—Men of Keakalo (Aroma). (Capt. F. R. Barton.)

PLATE XXVII.

Fig. 1.—Men of Keakalo (Aroma). (Capt. F. R. Barton.)
„ 2.—Natives of Roro. (Dr. A. C. Haddon.)
„ 3.—Natives of Roro. (Dr. A. C. Haddon.)

PLATE XXVIII.

Fig. 1.—Men of Waima. (Capt. F. R. Barton.)
„ 2.—Mekeo youths. (Capt. F. R. Barton.)

PLATE XXIX.

Fig. 1.—Opungu Ongopaina, chief of Inawi village, Mekeo. (Dr. A. C. Haddon.)
„ 2.—A Pokao woman. (Mr. David Ballantine.)
„ 3.—Pokao boys. (Capt. F. R. Barton.)

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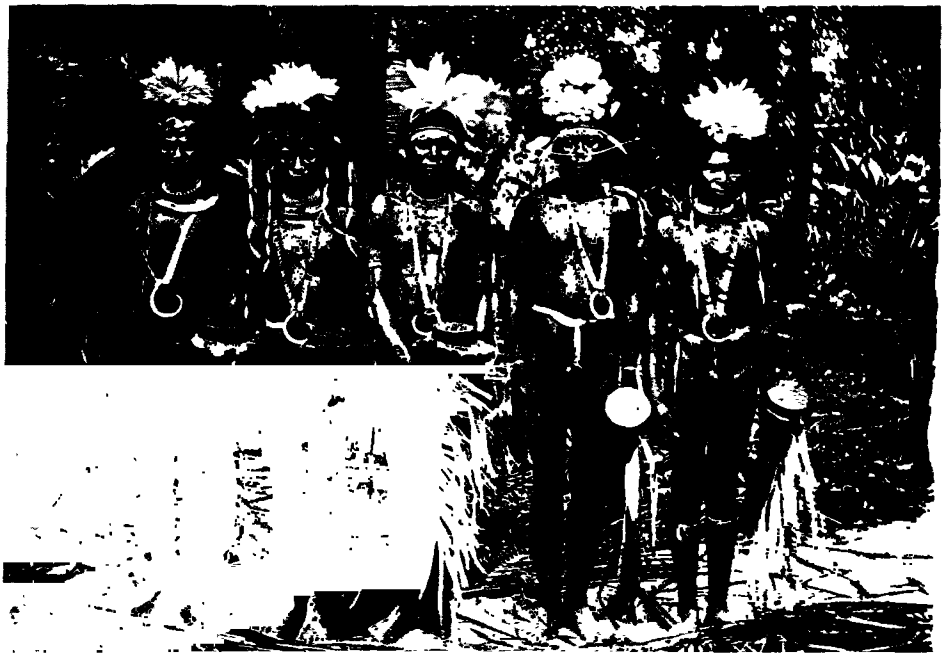
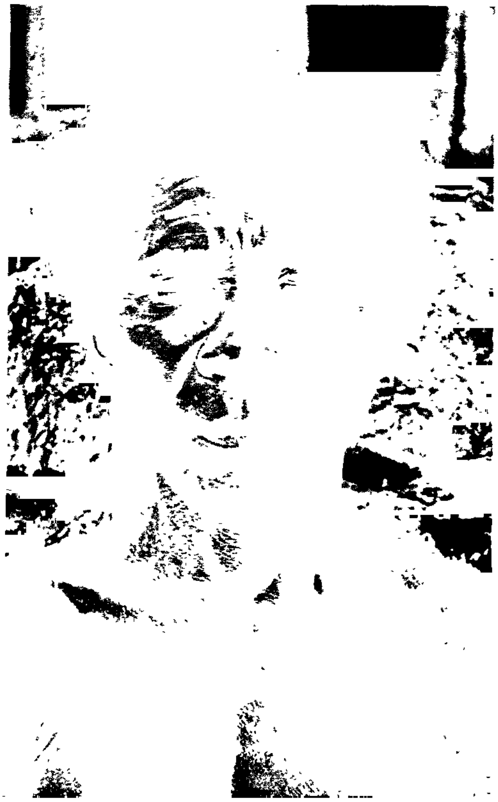
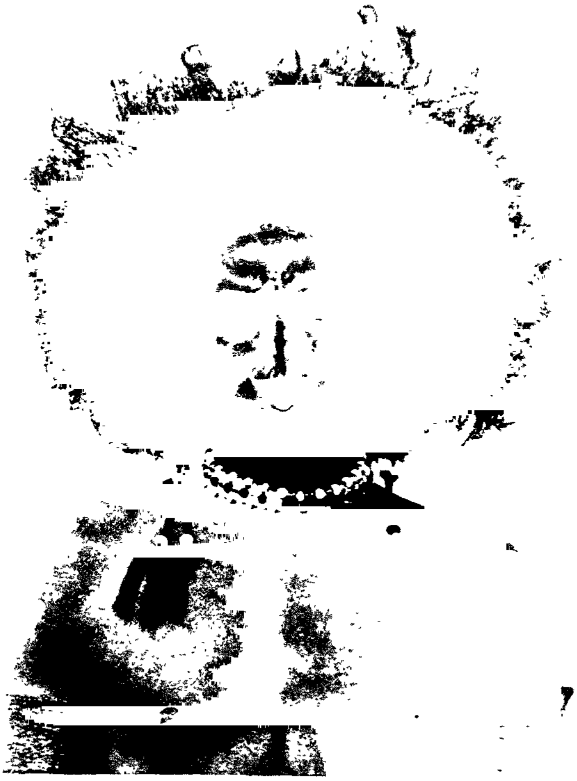
[1] *A Few Months in New Guinea.* London, 1880, p. 164.



1. GROUP OF MOTU YOUTHS.



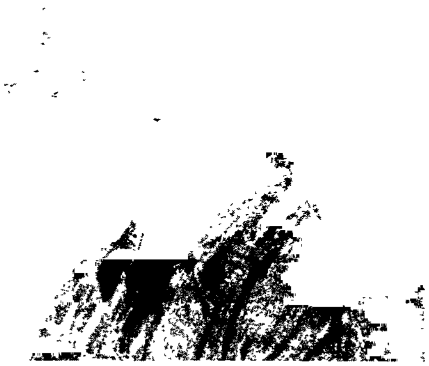
2. A TYPICAL MOTU.



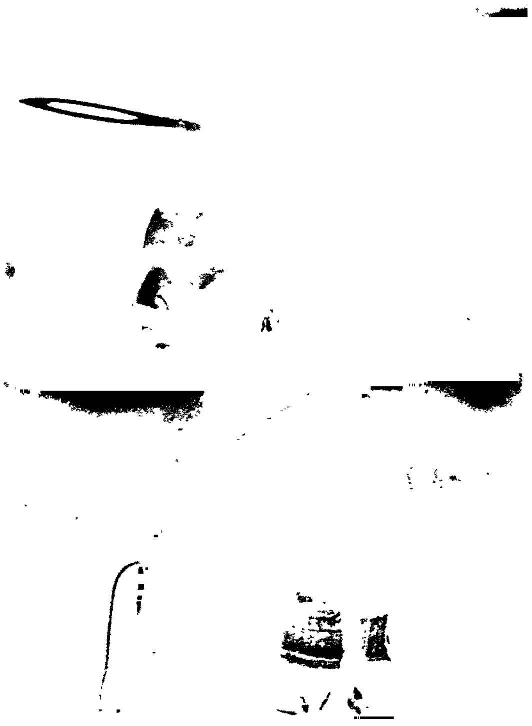
3. YOUNG ADULT OF GAILE.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

1. AHUIA OVA OF HOHODAI VILLAGE.



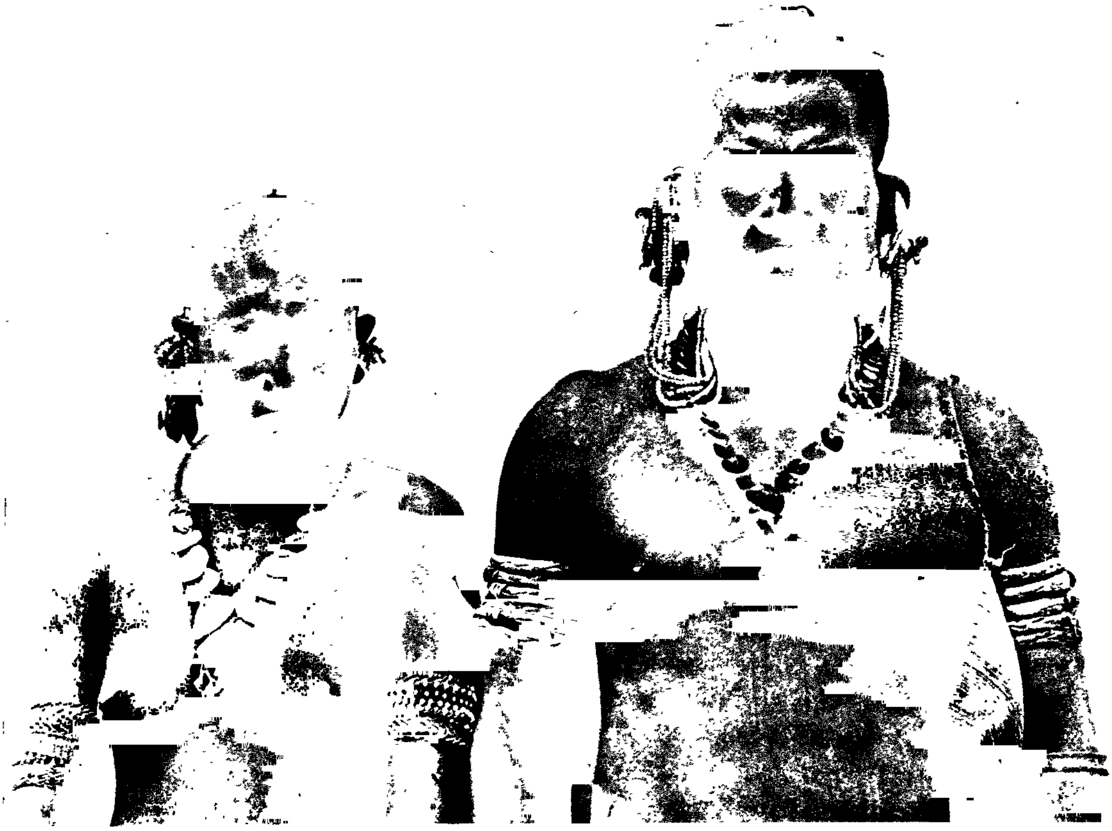
2. AHUIA OVA OF HOHODAI VILLAGE.



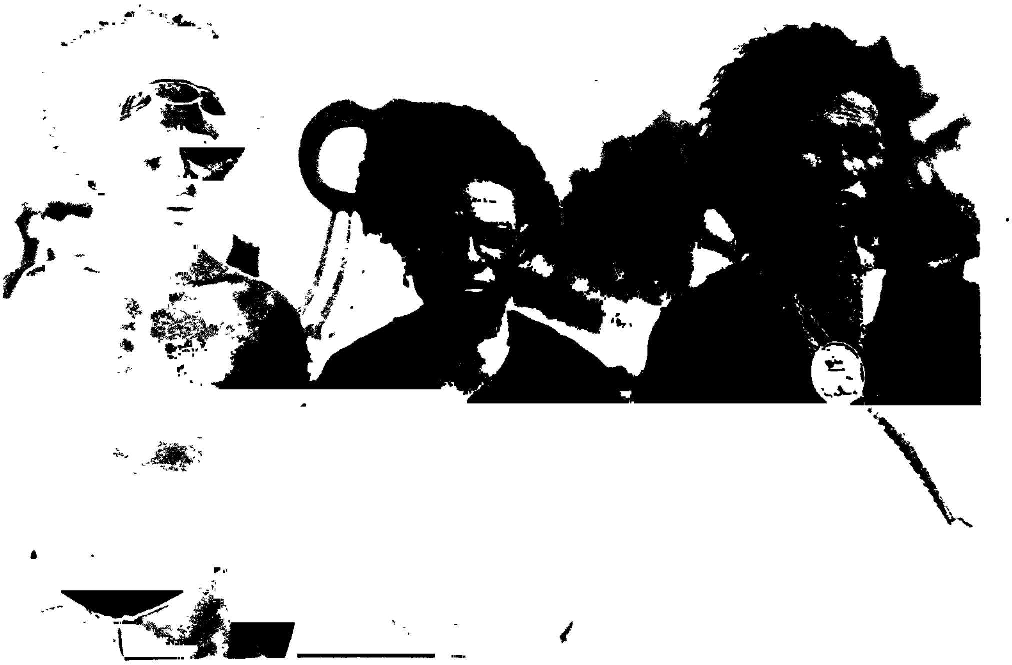
3. A MOTU YOUTH FROM ELEVARA.

4. A MOTU GIRL OF PORT MORESBY.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.



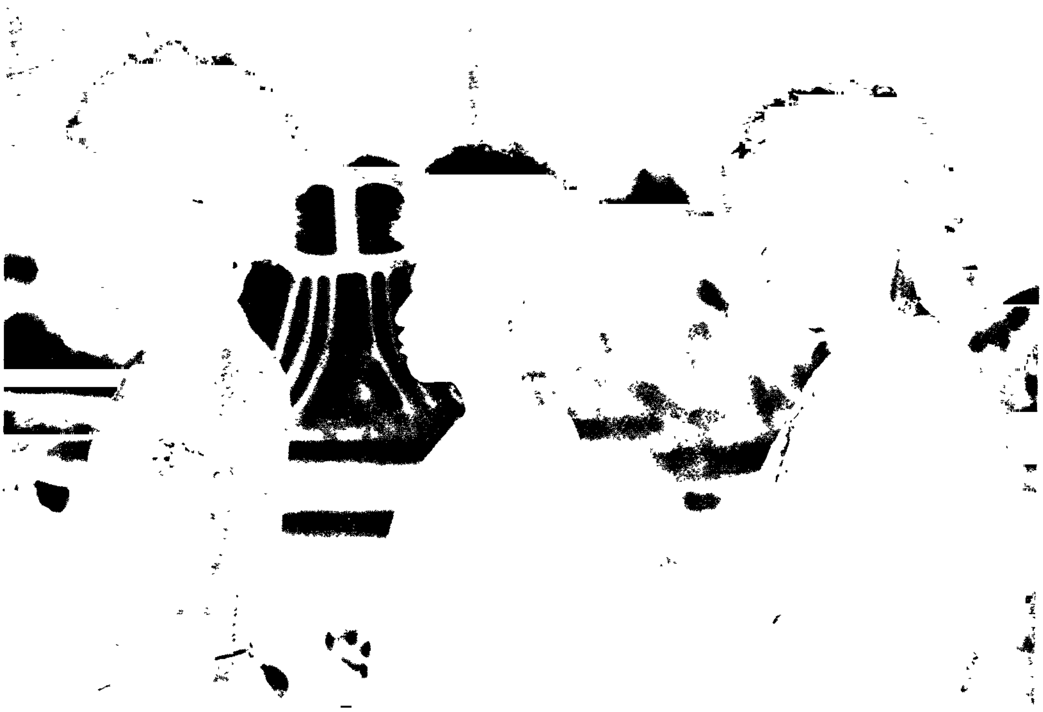
1. MAN AND WOMAN OF HULA.



2. MEN OF KEAKALO (AROMA).

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate XXVII.*

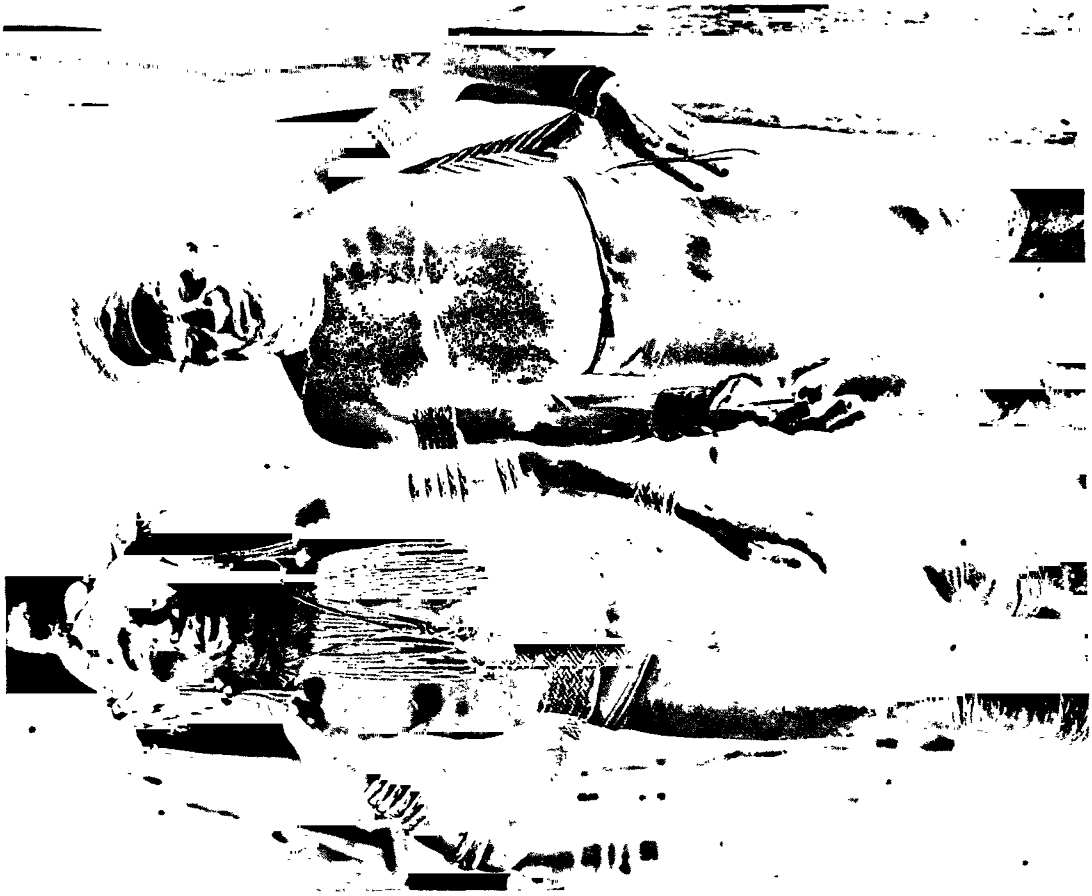


1. MEN OF KEAKALO (AROMA).

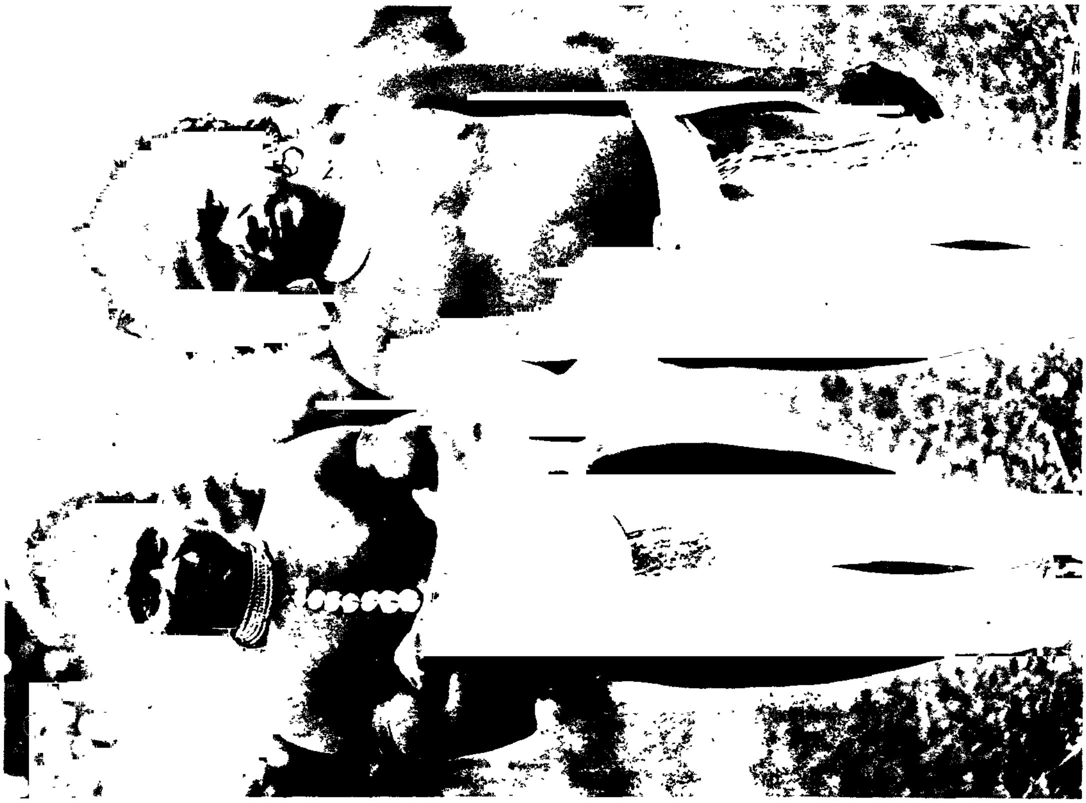
2. NATIVES OF RORO.

3. NATIVES OF RORO.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

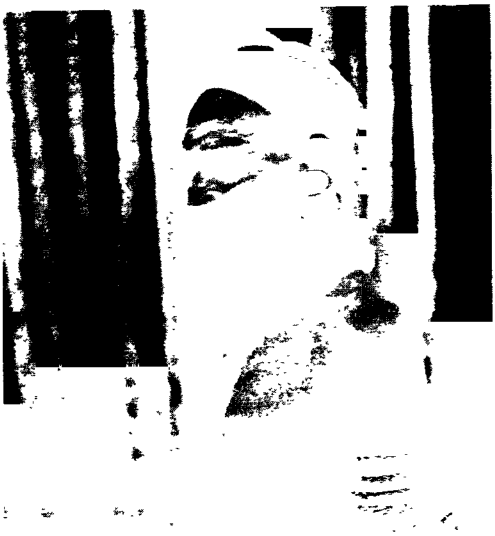


1. MEN OF WAIMA.

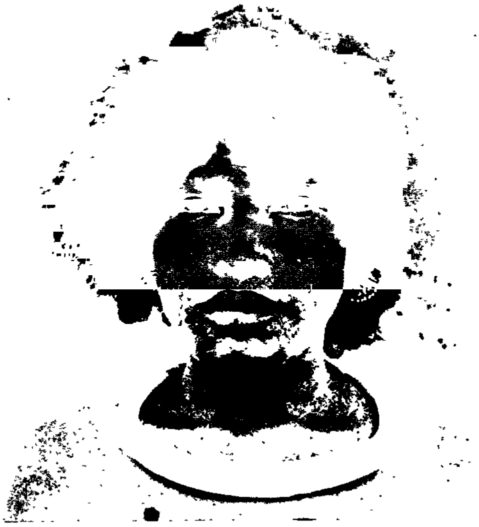


2. MEKEO YOUTHS.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.



1. OPUNGU ONGOPAINA, CHIEF OF INAWI VILLAGE, MEKEO.



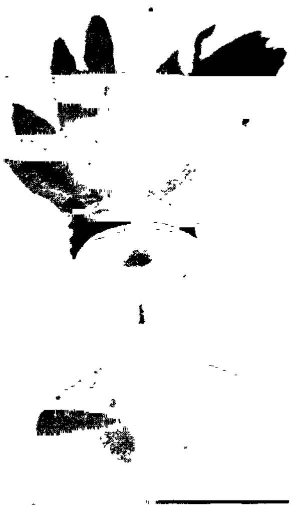
2. A POKAO WOMAN.

3. POKAO BOYS.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

VILLAGE CONSTABLES OF A NUMBER OF KOIARI VILLAGES.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

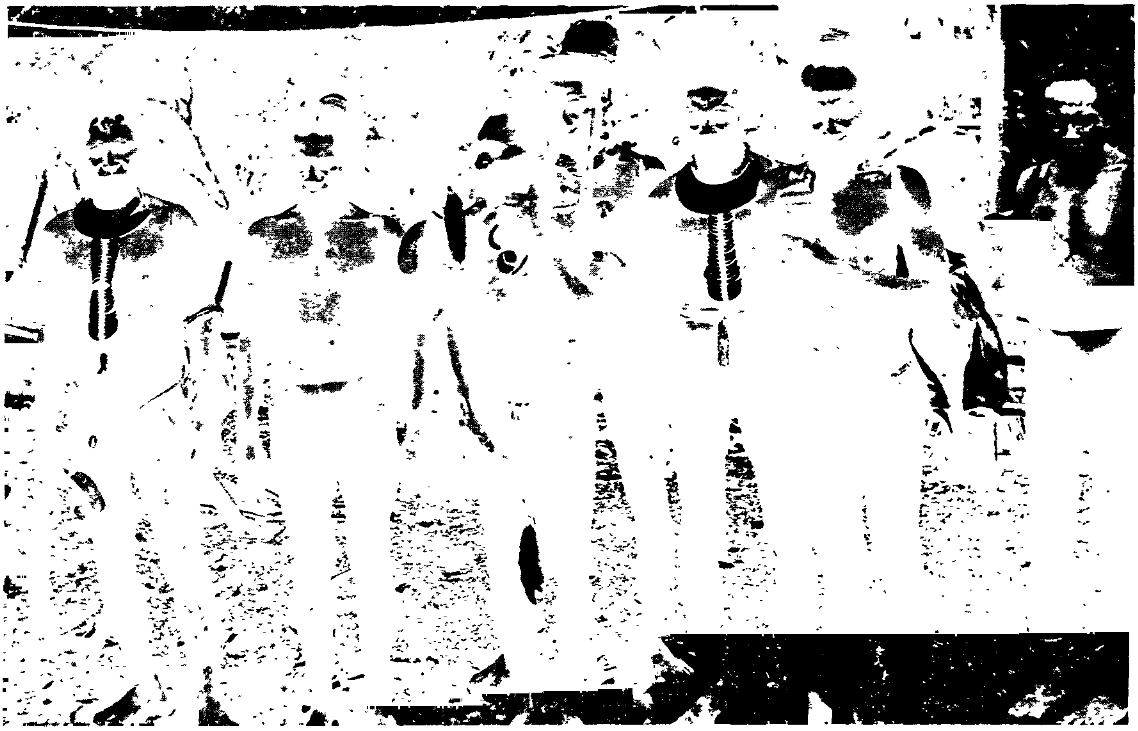


1. A KOIARI OF MEROKA.

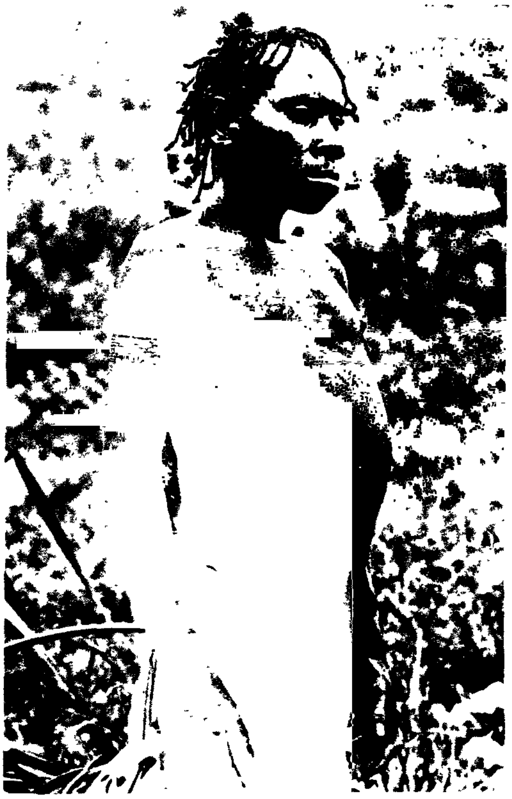
3. GARIA MEN.

2. GROUP OF KAGI MEN.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA



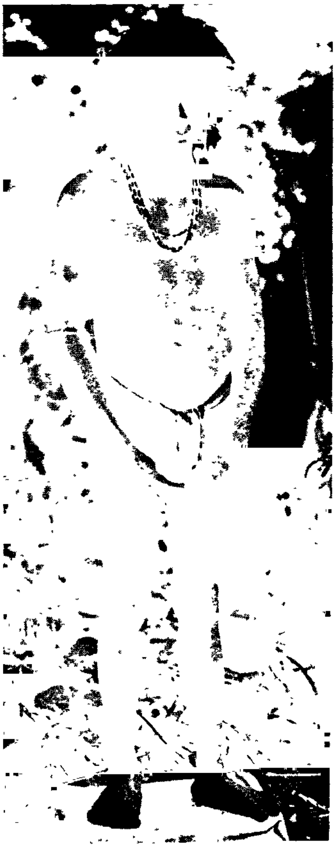
1. KUNI MEN.



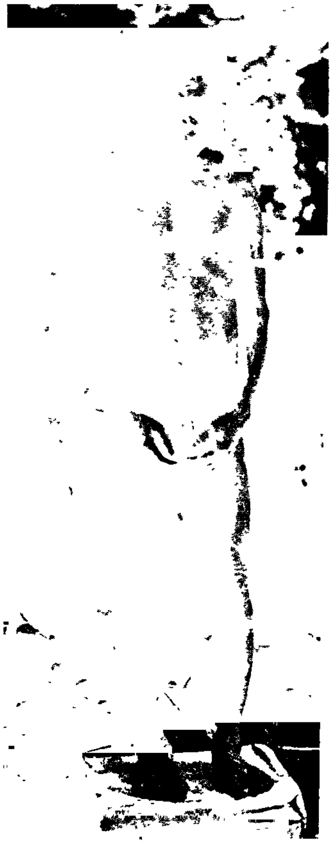
2. YOUTH OF INAUVORENE.

3. MAN OF NENEBA, MOUNT SCRATCHLEY.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA

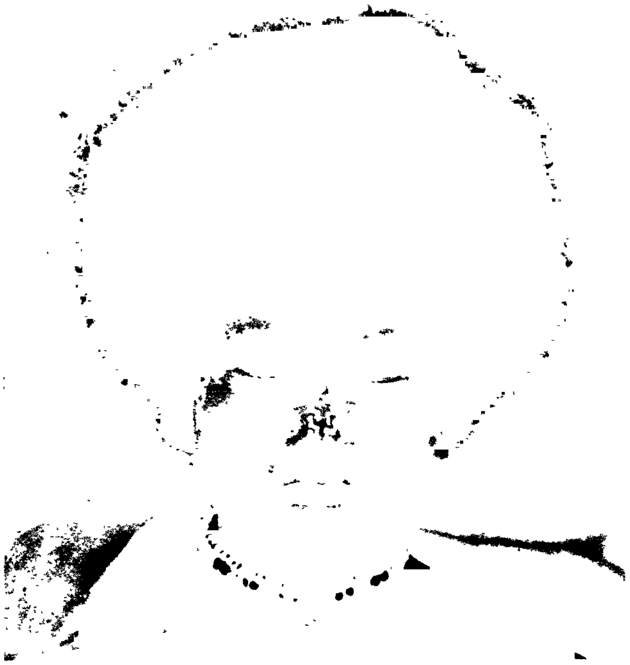


1. AGAIAMBO MAN.



2. AGAIAMBO MAN.

3. AGAIAMBO MAN.



4. HULA YOUTH WITH OBLIQUE EYES.

A CLASSIFICATION OF THE NATIVES OF BRITISH NEW GUINEA.

PLATE XXX.

Village constables of a number of Koiari villages. (Capt. F. R. Barton.)

PLATE XXXI.

Fig. 1.—A Koiari of Meroka. (Dr. H. O. Forbes.)
„ 2.—Group of Kagi men. (Capt. F. R. Barton.)
„ 3.—Garia men. (Dr. C. G. Seligmann.)

PLATE XXXII.

Fig. 1.—Kuni men. (Rev. Father Fillodeau.)
„ 2.—Youth of Inauvorene. (Capt. F. R. Barton.)
„ 3.—Men of Neneba, Mount Scratchley. (Capt. F. R. Barton.)

PLATE XXXIII.

Fig. 1.—Agaiambo man. (Capt. F. R. Barton.)
„ 2.—Agaiambo man. (Capt. F. R. Barton.)
„ 3.—Agaiambo man. (Capt. F. R. Barton.)
„ 4.—Hula youth with oblique eyes. (Capt. F. R. Barton.)

ETHNOLOGY OF THE ARAUCANOS.

By R. E. Latcham,

Local Correspondent of the Royal Anthropological Institute.

[With Plates XXXIV, XXXV.]

The Araucanos, as the Indians of Southern Chile are generally called, form one of the most indomitable races of which we have any record. During more than three centuries they offered such resistance to the Spanish arms, hitherto invincible in both Americas, that within their territories colonies could only be maintained in the immediate vicinity of walled towns or fortified strongholds. Even the most impregnable of these were time after time razed to the ground, and their inhabitants massacred, by these hardy barbarians.

In a former article[1] I have treated of the principal physical characters of this race, and now propose to give a short sketch of the most striking traits of their daily life.

Many writers have described the manners and customs of the Araucanos, frequently, however, in a superficial way. Among the older Spanish writers, notwithstanding, we have some very important accounts, and of late years two most notable works have appeared treating on this subject, *Aborigenes de Chile*, by José Toribio Medina, and the *Historia de la Civilizacion en la Araucania*, by Tomas Guevara.

My remarks are the result of personal observation during a three years' residence in Indian territory among the tribes of the Cautin valley, and also in the neighbourhood of Angol and Traiguen in the Malleco province. Where the customs seem to have been modified, I have consulted the most reliable of the old authors of the time of the Conquest.

Although the Araucano is extremely conservative and indisposed to change his manner of life, two principal factors have tended to modify considerably his social condition. The first was foreign invasion, and the second, really a corollary of the first, was the introduction of spirituous liquors.

There have been two foreign invasions which have left their indelible mark on the development of the race; the first by the Incas, and the second by the Spaniards.

The former first brought the Araucano into touch with civilisation. From this epoch date his knowledge of domestic animals, of the elements of agriculture, and of such arts as weaving and metal working. This period also sees him first begin to adopt a more sedentary life, constructing rude huts instead of the usual *toldo* or skin tent.

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[1] *Journ. Anthrop. Inst*, xxxiv (1904), pp. 170–180.

As Humboldt has so justly remarked, "the most difficult and the most important event in the history of human society is perhaps the change from a nomadic to an agricultural life." This change among the Araucanos was not brought about by any compulsory conditions, but seems to have been adopted gradually by the race on seeing the advantages accruing from the new mode of life, and at first only in a very desultory way.

The Spanish conquest brought with it knowledge of new cereals and plants, other domestic animals, a fuller use of metals, and a considerable change in the tribal government, owing to the necessity of continued union to repel the invader.

The introduction of spirituous liquors did not, for a considerable time, make much headway. The relations between the whites and the Indians were so strained, and the stern, hard discipline of constant warfare so maintained, that the results of this traffic were not for a long time apparent. But after the declaration of the Republican Government, when there were longer lapses of peace, it became a lucrative business, and many large fortunes were made by distilling cheap "firewater" in the frontier districts. To such a degree did this traffic attain that it is a common saying in the south that the distillers did in a few years what the Spaniards failed to accomplish in three centuries—reduced the tameless Araucano. This vice has taken such a hold of the Indian that in general it has completely changed his character and mode of life, and from being a fierce, untiring, vengeful patriot, he has become a drunken, cringing, soulless vagabond, who would sell land, stock, wife, daughters, or his soul itself to indulge in his craving desire for drink.

Clothing.—Prior to the Incasic invasion of the northern tribes the Araucanos led a purely nomadic life as hunters, shifting their *toldos* from time to time as the exigencies of the chase demanded. Their only dress consisted of the skins of wild beasts, sometimes hung as aprons by strips of hide from the waist, or passed cornerwise between the legs and brought up under a waistband. In winter they protected themselves from the cold and rain by long blankets of furs coarsely sewn together, or by guanaco skins, after the fashion of the Patagonians of the present day. In those earlier days, men and women alike wore their hair long and braided into two long plaits, fastened together at the tips by strips of hide. Now, however, this fashion is left to the women, and the men wear a mane, cut off square a little above the shoulders, and bound round above the ears with a bright-coloured worsted band or cotton handkerchief, red being the favourite colour. Formerly, in warfare, and at their principal feasts, the warriors wore the heads of wild beasts as helmets, the skins and tails hanging down their backs, and fastened under the chin by straps. They also fashioned rude sleeveless shirts of the softer skins, using eyeless needles of bone or thorn, and thin strips of hide or vegetable fibre. In some parts they also produced a coarse kind of fibre cloth, employing rushes, fibrous grasses, or the stringy inner bark of certain trees. This was evidently an imported custom, and was probably learnt from the Calchaqui, who inhabited the eastern slopes of the Andes north of the 32nd degree. There is reason to believe that they had learned the rudiments of spinning and weaving, probably from the same source, before the arrival of the Incas (*circa* A.D. 1450), and that they utilised the wool of the guanacos slain by their hunters in the confection of articles of dress.

The Incas introduced the llama and vicuña into the country, and from that time weaving became a recognised art among the northern tribes, although farther south the possession of a few of these animals was considered as a sign of considerable wealth. But the wearing of woollen clothing did not become generalised till the introduction of sheep during the Spanish occupation. This animal increased rapidly in the fertile plains of Southern Chile, and shortly formed one of the principal sources of riches among the Indians. To-day, cotton cloth is also extensively used.

The dress of the Araucanos, both men and women, consists of two principal garments, the *chamal* and the *iculla* or *macunyi*, both made of coarse native cloth, generally of a dark blue colour. The former is worn by the men in guise of breeches, and consists of a square of cloth passed between the legs with the four corners drawn up under a waistbelt. By the women it is worn draped over the left shoulder, where it is fastened with a thorn, pointed bone, or a silver pin. Passing under the right armpit, it envelops the body and hangs to the knee, kept in place by a woollen cord or waist band.

The *iculla* of the women is a smaller square, and hangs from the neck, mantle fashion; it is generally discarded indoors. Since the introduction of cotton goods the men usually wear coarse shirts of this material; formerly this garment was made of soft skins. Over all they wear the *macunyi* or *poncho*. A handkerchief or strip of coloured wool (*trarilonco*) is bound round the forehead, and completes the ordinary dress.

These Indians go barefoot, and seldom wear the raw hide sandals of the Chilian peasant, although some of those who live in the neighbourhood of the towns, and are brought more into contact with civilisation, occasionally wear boots and hats. The children generally run about quite nude, or at most with a small skin apron, which, however, they discard in their games.

Ornaments.—The Araucanos are not so much given to personal adornment as most savage or barbarian races, although the women show a certain love of display. The most ancient and the most universal of their trinkets are undoubtedly the collars and necklets of bright-coloured stones. They usually employ green or bluish green stones (silicate of copper oxides), such as malachite or azurite, which abound all through the country, calling them *llanca*, a name commonly adopted in Chile to express these ores. Small pieces of these stones polished and perforated were strung on cords of twisted fibres. Those tribes who dwelt near the coast used small shells and coloured pebbles for the same purpose.

The coming of the Incas gave them a knowledge of the use of metal, and both gold and silver were extensively worked for ornamental purposes. These ornaments were mostly simple in form and of rude workmanship, although some of them show considerable ingenuity in their fabrication. After the Spanish occupation and the settling of missionaries among them, the cross, especially the Maltese, became a favourite design in their silverwork. The chiefs used spurs, bits and stirrups of silver, and frequently adorned their saddles, bridles and whip handles with the same metal.

Owing to the Spaniard's greed for gold, and the dangers to which its display exposed them, this metal became less and less used, but their love for silver ornaments continues up to the present day.

The principal adornments of the women consisted of enormous earrings in the form of a half disc, frequently measuring 6 inches in diameter, bracelets, necklets, collars, head bands, waist bands, and long pins with large heads in the form of discs, half-moons, or ball-shaped. These were used to fasten their mantles. A favourite ornament is a strip of soft hide covered with rows of small silver beads. This is worn either as a head or waist band, and very frequently as a collar. Rings, usually plain silver bands, are frequently worn. Another favourite ornament is the *eli*, or chain pendant, worn suspended by a clasp from the breast, and having small trinkets hung at the extremity.

The Araucano neither daubs his face with paint nor uses tattooing as a means of beautifying his personal appearance, although formerly their war parties painted their faces to strike terror into the hearts of their enemies. The elaborate designs and totem marks used by some of the northern races seems to have had no counterpart among them, and they seem to have had no special identification mark to distinguish them if slain in battle, this task falling to the lot of the women who usually followed the war party not far in the rear.

Habitations.—As I have already mentioned, the primitive dwelling of the Araucano was the *toldo* or skin tent, such as is even now used by the Indian tribes of the Southern Pampas. When they began to lead a more sedentary life, they constructed rude wattle and daub huts, the cross-pieces of which were lashed together with fibrous creepers. These were probably at first circular in form, but finding them too small they afterwards gave them an oval shape, and finally began to build them in their present rectangular design.

The work of building these huts is a great event in the life of the Indians. The construction is not all conducted as one operation, but is generally divided into three stages, each of which gives occasion for a great feast, especially the final one. On this occasion, if the owner is a chief, or is well off, the feast lasts for several days. The first stage is the erecting of the posts and framework; the second the filling-in of the walls; and lastly the thatching of the roof with long coarse rushes.

The huts vary in size according to the necessities of the family, being from 20 to 60 feet in length and from 15 to 30 in width; the walls are about 6 feet in height. They are occupied by the owner, his wives, unmarried children, and sometimes by other children. The children and unmarried men and girls sleep pell-mell, spreading skins on the beaten earth floor where fancy dictates.

The huts of the chiefs and principal men are divided by bamboo screens, each wife having her separate sleeping and cooking place; but among the unmarried the same confusion prevails.

The Indian villages are never large, seldom containing more than a dozen huts, generally fewer. This dislike to congregating in numbers is probably a relic of their old hunting instinct, and dates from the time when their mode of life necessitated an extensive tract of country for the requirements of each family or clan.

The household effects are of the scantiest and rudest description. They use no tables, and their seats are either rough benches or blocks of wood; although the Indian for the most part squats cross-legged on the ground. They make a rude kind of bedstead of four forked sticks, planted in the ground. Two parallel bars are placed in the forks, and a horse or bullock hide is stretched tightly across them and fastened by strips of hide. Their beds consist of piles of sheep skins with the wool still on, or bundles of rushes covered with coarse native-made blankets. Another bundle of rushes or roll of skins forms a pillow, although this latter is frequently wanting.

The native cradle is rather ingenious. It is a kind of basket hung from the roof by cords, generally over the bed of the mother, who can thus swing it without rising.

The cooking utensils consist of coarse earthenware pots of different sizes; and the meals are eaten from roughly hollowed wooden platters with rude spoons of the same material. Their clothes, when not in use, are kept in large hide sacks, suspended from wooden hooks fastened in the uprights of the house. Each wife has her separate fire, cooks the food and attends to the wants of her own progeny.

Although the Araucanos are cleanly in their persons they are not so in their households; and, as in most inferior communities, they form a happy family, the pigs, poultry, dogs, cats, etc., all sleeping under the same roof.

Weaving.—The first material used by the Araucanos in their weaving was the fibre of certain plants and the inner bark of determined trees, especially the *nyocha* (*bromelia landbecki*), which to-day are only utilised for making ropes, baskets, cords, and fishing lines. Now they use the wool obtained from their numerous flocks.

To twist the wool they use a very simple spindle, shaped like a shuttle and about 10 inches long. At the lower end is fixed a perforated stone disc. The wool is taken in the left hand and wound around the left arm, the right hand being used to twirl the spindle and draw out the wool. Their looms are also very primitive and easily constructed, and being adjustable can be used for any sized cloth required. The vertical frame is about 5 feet high, with a series of holes ½ inch in diameter and about 6 inches apart, to allow the regulation of the crossbar which indicates the width of the piece to be woven. The cross-beams top and bottom are fixed to the uprights by wooden pegs, and the top one can be raised or lowered as desired. Both these cross-bars are provided with rows of tiny wooden pins over which the warp is stretched. The shuttle is long and needle-shaped, and is used alternately with either hand. The weft is beaten down with the same shuttle, or sometimes by a rude wooden comb. When the cloth to be woven is all one colour, the wool is dyed before the weaving begins. When stripes or designs of other colours are to be introduced the web is stretched on the frame, and the parts not to be dyed are bound round very tightly, the binding being sometimes greased. These parts are after carefully given the colour required. The colours principally used are black, blue, vermilion, yellow, and green. The dyes are for the most part vegetable, but some mineral colours and earths are known. The dyes are extremely fast, and retain their bright tints till the garment is worn out.

Skins.—Formerly the whole dress of the Araucano was composed of skins. Now they are seldom used for this purpose, but serve as rugs, beds, saddle pads, etc. They have two ways of preserving and preparing skins, one retaining the hair, and the other converting them into a kind of leather. In the first case, the fresh skin is stretched out on the ground, and pegged down with small wooden pegs, the inner side uppermost. When it is thoroughly dry, it is worked up with the hands and softened. The instrument employed for this purpose is peculiar. It is formed of a forked stick of some hard wood, one leg of which is left longer than the other. The inner surface of the fork is shaved away to form a sharp edge which is also notched. At the joint of the fork a piece of flint, iron, or other hard substance with a rough edge, is fixed as firmly as possible. The instrument is hung to a post by its longer limb, and the skin drawn to and fro in the notch of the fork. This is continued until it is completely softened. In the case of straps and thongs, they are afterwards rubbed with grease to keep them supple and to prevent them from fraying.

To remove the hair from the skin, it is first soaked in wood ashes and water. On being taken out it is scraped with sharp stones, shells or knives, on the inner surface, until the roots are loosened, when the air is plucked out. The skin is then dried and treated in the manner described already.

The principal skins used are those of the puma, guanaco, wild cat, coypu (a kind of beaver), fox, deer, otter, and dog; also sheepskins, and the hides of horses and cattle.

Pottery.—The Araucanos have acquired considerable skill in the fabrication of this article. The Indian territory is rich in different coloured clays, those most used being red, black, slaty blue, ochreous, and white, the red and black predominating.

The pottery is generally made by the women of the family, who use no other tool than a spoon-shaped stick to smooth the surface, which they do by wetting the stick. They fashion their ware by welding with their fingers. The base is formed in a single piece, and the vessel built up by strips of clay being added and worked in. The clay is of sufficient consistency to retain any form given to it. Each layer as it is laid on is smoothed over with the spoon.

The usual forms given to the household ware are those known as pitchers, pans, and pots. Both the pitchers and the pots are made with two ears or handles, and only differ in their relative diameters. Occasionally the jars or pitchers are given the shape of some animal, usually a sheep, dog, or pig, but are very rudely modelled.

Besides the coarse pottery used for domestic purposes, the Araucanos make a finer kind such as is frequently found in their burying places. The shapes most in use for this ware are bowls and small pitchers. It is made from a fine red clay and generally ornamented with designs of other colours, sometimes painted, sometimes formed of clays of other colours let in like mosaic. The principal colours used for these designs are white and black.

A glaze is given sometimes by the addition of a little ground quartz or felspar, or more commonly by throwing handfuls of salt into the vessels when they are at a red heat. The ovens are simple holes in the ground kept filled with burning embers and ashes, and the cooling is done gradually.

One particular kind of ware, very highly prized among the tribes, is ornamented in a peculiar manner. The design is traced out while the clay composing the vessel is still plastic. Following this design a clean groove is cut about an eighth of an inch deep. The vessel is then baked. On cooling, a fine white clay mixed with powdered shell is pressed into the grooves, and carefully scraped over afterwards to leave a smooth clean-cut surface. The inside is lined with the same mixture, and again set to bake in a fierce fire, which causes the clay in the design to set. This ware is not glazed but is brought to a bright surface by polishing. The designs most used are chevrons, checquers, triangles, lozenges, herring bones, and a kind of fretwork pattern. All the patterns used are composed of straight and parallel lines.

Fire.—There seem to be no special rites connected with fire or its maintenance, although formerly there may have been. The Indian now obtains his fire in the orthodox civilised way, by using matches, or with flint and steel. Occasionally I have seen it produced by the friction of two sticks, one hard and pointed, the other rotten and extremely dry. The pointed stick is rolled rapidly between the hands and works as in a socket, considerable downward pressure being used. A remnant of old usages may be noted in the custom among the Indians of covering up the embers at night with ashes so that they are still smouldering in the morning.

Food.—The food of the Araucano is abundant, nutritive and varied. The country itself produces more than sufficient for his needs; although of late years owing to the settling and colonisation of this portion of Chili, the sale of Indian lands, and their confinement to reserved territories have brought about a considerable modification in their mode of living, and they have found it more necessary to recur to agriculture and the rearing of flocks and herds.

First among the natural products are various classes of tubers, especially the wild potato (*poñi* pronounced *ponyi*). Edible roots are extremely abundant, as also several kinds of wild cereals, from the most important of which, millet (*huegeu*) and rye (*magu*), they make a coarse unleavened bread.

From a plant called *madi* they obtain a sweet oil, considerably used in their cooking.

The immense forests supply them with innumerable fruits and berries, used both for food and for the manufacture of fermented liquors, and also with edible fungi which form a favourite article of diet. The open plains provide them with the wild strawberry (*fragaria chilensis*), small but of exquisite flavour. This plant frequently covers square leagues of ground, but never grows except on virgin soil. But the great staple food, the base of all their subsistence, save among the coast tribes, was the *piñon,* the fruit of the Araucanian pine (*Araucaria imbricata*).

Every year during the autumn months excursions are made by the whole tribe to the pine forests, where they remain until they have collected sufficient for the following year. Each tribe has its own district, inherited by custom from generation to generation and inviolate, by unwritten law, from other tribes, even in time of warfare.

This harvest was formerly of such supreme importance, that all inter-tribal quarrels and warfares were suspended by mutual accord during this period.

The Araucano had always a good supply of flesh and fowl, especially the latter. Among the wild animals used for food were the *huemul* (*cervus chilensis*), the *pudu* (*cervus pudu*), the guanaco, and the *pangi* (*felis concolor*).

The birds were more numerous and included the *vudu* or partridge, pigeons, doves, parrots, numerous kinds of duck, *bandurria, peguen* or wild geese, wild swans, plover, etc. The coast tribes lived principally on fish and various kinds of shellfish.

In modern times they have cultivated maize and *frejoles* (beans), introduced by the Incas, wheat, barley, rye, potatoes and other crops, while their food supply has been greatly increased by the introduction of horses, cattle, sheep, pigs, and poultry.

To this abundance of comestibles is to be ascribed the warlike tendencies of these Indians, who not having to give much heed to their food supply, the fertile soil producing it spontaneously almost everywhere, could indulge freely in the luxury of continual warfare. This also gave them an enormous advantage over the Spaniards in their long campaigns, as the latter were almost entirely dependent on their baggage trains or provision supplies, while the surrounding country catered to the wants of their indomitable foes.

As a condiment they use the *aji* or Chile pepper; salt was obtained from the numerous saline deposits found throughout the country, while flavour was given to their dishes by the employment of wild thyme and wild mint.

Their food is usually cooked in earthenware pots, but many kinds of flesh are roasted, or broiled.

The cooking is done by the women, each wife cooking for her own family and taking it in turns to cook for the husband. Each wife has her own fire and cooking utensils.

The food is served in wooden bowls and platters, the men being served first. They do not use a different bowl or platter for each individual, but the adult males sit round the bowls in groups of three or four, each one helping himself in rotation, beginning with the eldest, or with the guests, if any are present. Should the visitor be a stranger or a person of consideration he is given a platter to himself. They use wooden spoons for their meals, but latterly the tin or pewter article of commerce has been much adopted. After the men have finished, the women and children partake of the leavings in the same manner.

The platters and spoons are not washed till after the meal. To remove grease they use wood ashes.

A few of their principal dishes are as follows: *ticum coré*, flesh cooked with bruised wheat or maize; *poñi coré*, potatoes and maize; beans or peas boiled with grease, and various other stews in which the *moté* or skinned wheat or maize form the principal ingredient. The coast Indians also use two or three edible kinds of *algæ*.

The favourite meat is horse-flesh, and mutton, half cooked, but they prefer the former, seldom killing their horned cattle, which they keep for commercial and agricultural purposes.

Another common article of fare is the *ulpud*, with which the Indian concludes most of his meals, breaks his fast in the early morning, and which he takes with him on all his journeys. It consists of toasted wheatmeal, and is eaten or drunk with water which any brook or spring supplies.

The Indians take their meals at any hour, but generally at mid-day and sundown. If they feel hungry at other times, the inevitable *ulpud* is their immediate satisfier.

They have no special names for their meals.

The use of bread antedates the Spanish conquest, and at present they prepare different kinds from all their cereals.

The latter are ground, not by pounding but by rubbing. A little grain is placed on a flat stone, and rubbed with a smaller one, held in both hands; the operator kneeling beside the larger stone and bringing the weight of the body to bear in the operation. The meal is sometimes sifted in horsehair sieves, but is generally used entire.

No ovens are used, but the bread is baked in the ashes in the form of *tortillas* or flat cakes. A primitive leaven is prepared by the old women or children chewing the grain and then leaving it to ferment in water, or in a hole in the ground.

There is very little difference in the foods of the upper and lower classes among the Araucanos, save perhaps the quantity of flesh consumed; nor do there seem to have been any tabooed foods. Men and women eat from a common supply.

Like most other barbarians, these Indians are greatly addicted to drunkenness, especially since the introduction of distilled spirits. They are accustomed to intoxication from earliest childhood; it being no uncommon thing to see small children completely inebriated. In regard to fermented liquors they are exceptionally well provided, a considerable number of wild fruits supplying them with materials.

After the introduction of cereals they learnt how to prepare a kind of small beer from maize and barley.

The early missionaries planted large numbers of European fruit trees round the old missions, some of which, like the apple, have propagated to such an extent as to form real forests. From the apple the Indians make a kind of cider called *chicha,* making a similar liquor from another fruit called *muchi.*

They also extract a spirituous liquor from several plants, especially the *huingan.*

They make their *chicha* in wooden troughs, pounding the apples with sticks. The juice is mixed with water, and left to ferment for seven or eight days. It is usually consumed at once, as it very quickly turns bad. The *chicha* is usually made by the men, the children gathering the fruit. It is kept in large earthenware jars.

Agriculture.—When the Incas arrived in Chile they found the native races without even a rudimentary knowledge of agriculture. Following their established custom, the Inca Yupanqui imported into the conquered country a large number of *mitmacs,* or colonists from Peru, presumably from the Chincha tribes.

These colonists, mixing little by little with the Indians of Northern and Central Chile, introduced among them the first elements of agricultural and pastoral life.

But even a century later, at the arrival of the Spaniards, those tribes who dwelt to the south of the Bio-bio had not adopted the new state, save in a very limited manner, owing to the abundance of natural products and their continual state of inter-tribal warfare.

Up to the present time the Araucano only takes to agriculture in a desultory fashion, and to provide the mere necessities of life. Their methods are of the most primitive.

Probably the principal reason why the barbarian tribes take to agricultural life with such distaste, is the difficulty of inadequate implements, and the consequent amount of labour entailed by such work, especially before the introduction of domestic animals.

The Araucano, for instance, could see no use in working hard to obtain what the earth gave spontaneously; and as a consequence, so long as his liberty to roam at will was uncurtailed, he showed himself refractory to such a mode of life.

His first implements were extremely modest. A forked stick of hard wood, weighted by a perforated stone, which also served as a handle, enabled him to turn over the ground. This digging-stick was at first used for grubbing up the roots which formed a principal part of his daily food. Another form of digging-stick, which was universally carried by men, women, and children alike, and taken with them in all their wanderings, had a chisel-like point, generally charred to give it greater resistance.

Later on the plough, first introduced by the Spaniards, was rudely imitated by the Indians. Their first attempt was simply a long-forked pole, the shorter arm of which was pointed. Over the fork a heavy stone was attached, and a short handle added. It was drawn by four or six men.

This form was afterwards modified, by being made in two parts; the body, which was shod with iron at the point, and the pole. The handle passed through both, and was wedged.

This plough is still used, not only by the Indians, but all over Chile, in the more rural parts, and even many of the larger farms still employ it, although the iron plough is rapidly taking its place.

The harrows used consist of a number of thorny branches lashed together and weighted by heavy logs.

Their harvests are thrashed out by troops of mares. A circle is enclosed by palings, the corn is spread on the beaten floor, till the grain is trampled out. It is then winnowed by tossing from one pile to another with wooden shovels.

In the Central and Northern provinces the Indians had learnt the art of irrigation from the Incas, but in the south the frequent rains rendered this unnecessary.

All the lighter work is performed by the women, the men only taking part in the ploughing and thrashing.

Formerly all agricultural and other work was undertaken for the benefit of the family or clan, but now individual rights are gradually being asserted, especially by those Indians who have been most brought in contact with civilised customs.

Among those Indians who live in the forest region, the land is prepared for sowing by burning a piece of the undergrowth, where the larger trees appear in fewer numbers. This operation is frequently performed twice. The smaller roots are then grubbed out, and the ground prepared in the ordinary way.

Before the settlement of the Indian territory by the Chilian Government, it was seldom that the same plot was planted more than once, but of late, since the Indians have become confined to special grounds allotted to them, it has become customary to sow the same plot over and over again, although occasionally they allow a plot to lie fallow.

The Araucano keeps considerable flocks and herds, especially of sheep and brood mares, and occasionally horned cattle. The milk both of the mares and cows is considerably used, but the production of butter or cheese is very little understood.

Religion.—It is extremely difficult to speak with certainty of the religious beliefs of the Araucanos. The Spanish writers of the time of the Conquest did not take the trouble properly to examine or analyse the rites and superstitions of the conquered races, ascribing everything they did not understand, or that did not accord with their ideas, to the agency of the devil. As a consequence we have no real record of their ideas of religion.

At the present time there is a great admixture of Christian beliefs and customs engrafted on the native superstitions and mode of thought creating a hybrid paganism the origins of which are often extremely doubtful.

The Araucano, even of to-day, has only a very faint hazy idea of things spiritual. His religious opinions are intensely materialistic, and he endows his deities with a corporal form. In fact, he may be said to have hardly got beyond a state of fetish worship. In the following pages the term spirit is only employed to indicate a supernatural agency, although the Indian ascribes to it in every case a preconceived form. This belief is not exactly the ghost-worship of many of the tribes of North America, animism having little place in their theories. Neither do they believe that all inert objects are endowed with a spirit; considering that such objects may become temporarily the abiding place of an invisible being, but always attributing to it a concrete form.

The Araucanos recognise no supreme being with definite attributes. They have no temples, no idols, no established religious cult, and no priesthood in a religious sense, although they occasionally sacrifice to one or other of their divinities, but without a fixed ritual, and only as a conciliatory or expiatory act.

The basis of their belief is a rude form of nature worship, and all inanimate things are, or may be, the abodes of supernatural beings, malign or beneficent as the case may be, to whom they attribute a concrete form, but who possess the faculty of rendering themselves visible or invisible at will.

This invisibility, according to their belief, extends to their own bodies, for they are convinced that their dreams are the nightly wanderings of their other selves or spirits, to which, however, they assign a material though invisible form. They are not invisible to the *pilli* or spirits of other Indians, and so when they dream of other persons they really believe their *pilli* have met. Thus also when they are attacked by nightmare or delirium tremens, the horrible forms their imaginations conjure up are considered to be real beings.

Their dead, when they return to this earth, generally appear transformed, but corporeal and visible to the *pilli.* This belief that dreams are nothing but the wanderings of their bodies in invisible form, and that those persons dreamt about are really met, is the basis of their ideas of a future state, as they have thus an overwhelming proof that the dead frequently revisit this earth in the form of *pilli* or spirits. In the same manner the material forms given to their good and evil spirits are to be explained.

If we duly remember that dreams and their events are very real facts in their theosophy, then we have the key by which many obscure and unexplained conceptions may be unravelled. It is common to hear one of these Indians relate in the most convinced and matter of fact way his having encountered one or other of these good or evil spirits, and give elaborate details of the meeting and its result. This belief has also led up to another superstition which greatly affected the individual welfare of the Araucano. Their notion is that no one dies a natural death. Death is due to sorcery, or poisoning, frequently committed by some enemy in his *pilli* form, or some malign spirit, who assumed any shape at will, as that of a snake, lizard, fly, ant, etc., and thus operated with little fear of discovery, or became invisible, although his corporeal body none the less existed.

Death by torture was up till quite recently the fate of anyone convicted of sorcery or of having caused the death of another by occult means. This gave a great power to their *machis* or witchdoctors, whose principal task was the finding out of the sorcerers, and of the discovery of the causes of death. These witchdoctors of savage and barbarian races are generally looked upon as arrant impostors, but according to their lights they are not so to nearly as great an extent as is usually supposed. To understand their point of view it is very important to bear in mind what has already been said about the real and tangible meaning that dreams have to them. The witchdoctor, through his training, mode of life, and natural temperament, is generally a person of a highly strung nervous disposition, to whom the faculty of throwing himself into a cataleptic or hypnotic trance is a second nature. When called in to discover the secret enemy who has caused the death of a certain individual, by the aid of powerful drugs, intensely concentrated attention and severe bodily exercise, he works himself up to such a pitch of nervous excitement that he finally collapses into a state of coma or trance, which frequently lasts for several hours. During this trance, any person or being which passes before his mind's eye is considered to have been the offender and is speedily denounced, there being no appeal from these decisions. Naturally enough, this gives the *machi* an immense power, as it offers him an opportunity for wreaking vengeance on anyone who has fallen into his bad books. But these opportunities are seldom taken advantage of, as it creates a blood feud with the kindred of the accused.

As we have said, the theogony of the Araucanos was a kind of nature-worship, partaking of the principle of demonology, that is, their principal deities were all evil genii to be propitiated, and not benign divinities whose mercy and grace were to be implored. Undoubtedly the principal god in their eyes was *Pillan*, the thunder god, since called *Ngunemapun*. Many persons suppose that these are two separate deities, but after a careful study I believe them to be one and the same, the older *Pillan* having received new attributes after the Indians had come into contact with Christian ideas. At present *Ngunemapun*—Lord of the Earth—has almost entirely replaced *Pillan*, and has absorbed most of the powers of the latter. What is certain is that none of the former Spanish writers mention him, and no knowledge of him was hinted at till the beginning of the nineteenth century. *Pillan* was not only the god of thunder but was also the purveyor of fire, causing the lightning, volcanic eruptions, and the earthquakes, and dwelt in the heart of the volcanoes. He was conceived to be a corporeal deity, one and many at the same time. The chiefs and warriors who fell in battle became in some unexplained way absorbed into *Pillan*, the former as volcanoes and the latter as clouds. From this belief a myth sprung up. During a thunderstorm the Indians looked anxiously towards the sky to see which way the clouds were drifting, showing signs of contentment if they were driven towards the north. They supposed that these tempests represented battles between those of their race and their Spanish oppressors. If the clouds drifted southwards they supposed that their people were being driven back, but if on the contrary they were blown in a northerly direction they rejoiced at the defeat of their enemies.

Pillan was served by malignant spirits called *Huecuvus,* who possessed the power of transforming themselves into any shape they wished in order to work evil. To drive them away from their dwellings the Araucanos burnt branches of *canelo,* their sacred tree. To their influences were imputed many of their sicknesses, especially those which were not easily diagnosed. They were, in these cases, supposed to produce invisible wounds with invisible arrows. To them also were attributed all the natural phenomena, when they occurred at inopportune moments, or brought in their train any unfavourable results ; as, for instance, rain in harvest-time, blight or diseases in their crops, lameness or sickness among their stock, and in general all those accidents that they could not ascribe to a direct agency. Other servants of Pillan were the *Cherruve,* figured as snakes with human heads. These genii were the originators of the comets and shooting stars, considered to be the forerunners of death, or of terrible calamities to those villages in whose direction they shot.

Another of their deities was *Meulen* (whirlwind), the god of the winds. He was figured as a lizard who disappeared into the earth when the whirlwind broke up.

The moon, *Auchimalguen* (wife of the sun), was their only beneficent deity. She protected and advised them of any disaster, showing them their enemies, and frightening away the evil spirits. This is easily understood when one remembers that night attacks are seldom undertaken on moonlight nights, and that most savages have a great fear of the dark when alone. It also accounts for the faith placed in the signs of the moon, whose phases were always consulted in their principal undertakings. A red moon was considered to be a sign of the death of some important personage. What is curious, especially if we consider their contact with the Incas, is that the sun has no place in their religious beliefs.

Nguruvilu, the water god, or spirit of the rivers and lakes, takes the form of a wild cat, with a long tail terminating in a terrible claw. Any accident that happens to the Indians while in or on the water is attributed to him.

Another god was *Huaillepenyi,* the spirit of the mist. He appeared as a sheep with a calf's head and a seal's hind quarters, and was only seen on the banks of rivers, lakes, or the sea coast. When a child was born deformed in any way, it was put down to his influence.

Among the minor gods or evil spirits may be mentioned the following: *Chonchonyi,* a human head whose ears served as wings, a species of vampire who hovered round the dwellings of the sick. If they were left unguarded he entered and struggled with them (convulsions). If he conquered he sucked the patient's life blood.

Colo-colo (cockatrice) generated from a cock's egg, caused fever and death by extracting the saliva from his victim. *Pihuechenyi,* or winged snake, sucked the blood of anyone found sleeping in the woods by night.

The *Am,* or ghosts of the dead, who appeared to the living, distinguished from the *Pilli* already mentioned, who were the ghosts or other self of the living. They also believed that their chiefs returned to visit the haunts of their relatives in the form of humble-bees.

All their trials and adversities, even the most trivial, were set down to the malignity of evil spirits.

Religion had very little effect on Araucano morals, and fear of a future punishment was unknown to them. Any kind of worship or religious rite was also unknown, and only in time of great adversity, as of drought, famine or plague, was any offering or propitiatory sacrifice made.

They believed in a future state, but hell had no place in their beliefs. After death they went in an invisible, but corporeal, form to the other world, where the evil spirits had no entry, where there was always abundance, and where they passed their time feasting and drinking and dancing, waited on by their wives, who had either preceded them or would follow after. The same castes were preserved there as on earth, but the poor people and the public women went to another land where it was always cold. Here also there was abundance to eat and drink, but of the poorest quality, and as before the men were waited on by the women. To arrive at their future resting place it was necessary to cross the sea. For this reason the dead are buried facing the west. Before arriving at this happy land they had a long journey to make. So that they should want nothing on this journey, a good supply of provisions, blankets, skins, etc., were buried with the corpse, and a horse was either buried also or slaughtered over the grave.

The island of Mocha was formerly believed to be the starting place for this long trip. Spirits of the dead had to follow a narrow path, guarded by a witch, who collected tribute from all passers. Even now the Araucanos bury some few coins or other objects with the dead to discharge this obligation.

The coast tribes believed that certain witches transformed themselves into whales to ferry them from the mainland to the island, while the inland tribes supposed that they changed into canoes. Many of these beliefs have been modified since the race has been in contact with Christianity, which, however, has made little headway among them, probably because they cannot even conceive of, much less understand, the principal dogmas and tenets of a highly developed religion.

The stories of numerous converts are inexplicable to one who has probed the Indian's mode of thought and state of intellect. At most they can be only nominally Christians, accepting certain moral ideas and outward forms, such as baptism, crosses in their burial grounds, etc., and all that appeals to the senses, but in the real basis of their ideas they are as pagan as they were three centuries ago. As a proof of this I have seen sacrifices made during a dry season to *Nguruvilu,* the god of rain, by nominal Christians at less than half a mile distance from the Quino mission. It is also shown by their adhering to their old burial customs. They would never consent to the Spanish mode of burial, alleging that to do so would be to leave their dead without resources for their journey to the other world.

It seems to be a futile task to engraft an intensely spiritual religion on a mind that is entirely materialistic, as it only leads from one form of paganism to another. Not that missionary work should be discouraged, on the contrary it is of the highest benefit when properly undertaken, but the only immediate results are from material and moral teaching, and only after long generations can we hope to find practical results from a strictly religious point of view.

There are many legends extant among the Indians referring to the deluge, but these seem to have had reference primarily to local cataclysms, although the early writers attribute to it an universal character.

Medina in his work, *Aborigènes de Chile,* relates a legend that only too clearly bears the imprint of a Christian modification. He says: "A tradition is preserved from immemorial ages by the Indians, that on the site now occupied by the lake of Tagua-tagua, long before the arrival of the Spaniards, existed a beautiful and fertile valley, very densely populated. These people had become so relaxed and degenerate in their customs that God sent two beautiful youths to warn them. On their continuing in their sin the youths were sent a second time. Still no heed was taken of the warning, till God, losing all patience, sent an awful earthquake, which overturned the valley, splitting asunder the rocks, the waters bursting forth and swallowing up the whole valley. From that day to this the people disappeared off the face of the globe."

Here we have a legend, the formation of which is based on strict geological truth, as a brief study of the neighbourhood reveals, but the causes deduced are undoubtedly of a much later date, and are clearly an addition to the original tale, recalling immediately the story of Sodom and Gomorrah. That this part of the legend has not been invented by Indian agency is clear from the fact that none of their deities are attributed with any desire or interest in the goodness of mankind and also that to the Araucano sin has no particular meaning. Nuñez de Piñeda in his *Cautiverio Feliz* states that *dametun,* carrying off a married woman, was considered by them as a sin, as was also stealing and murder. This seems, however, to be a misunderstanding of the term, as these acts were then, as now, considered only as crimes towards the community, and were punished as such, but without it occurring to the Indian that it was wrong in a religious sense. It was not the act itself that was condemned, but the fact of its being committed in one's own or in a friendly clan. On the contrary such an act committed in a strange tribe was considered as perfectly allowable, and generally upheld by arms, if necessary, by the clan to which the offender belonged.

Efforts are now being seriously made to bring this race within the pale of civilisation, and numerous schools and missions, Catholic and Protestant, have been established within their territories, which not only teach them religion and morals, but also instruct them in the rudiments of useful arts and employments.

Superstitions.—It should be clearly borne in mind that the Araucano as compared with the European is still in an infantile stage as regards intellect. These Indians, like all lower races, are very superstitious, and great believers in omens. Many of these superstitions are connected with animals or birds. Any event that does not fall within the scope or comprehension of their senses is regarded as the work of evil spirits. If they notice any unusual act of bird or beast, they immediately conclude that it is possessed. A fox, or puma that prowls round their hut by night, is a witch who has come to see what she can steal. On driving it away they take care to do it no bodily harm for fear of reprisals.

Many night birds are considered as forerunners of sickness or death when they utter their harsh cries in the neighbourhood of a dwelling. It is unlucky to meet thrushes and some other birds. If vultures followed the route of a war party, many of the number would return home, considering slaughter and defeat as inevitable. A fox, crossing the path of a similar party, indicated, by the way it took, the fate of the undertaking. If it passed to the left, they returned home, assured of the uselessness of proceeding. If on the other hand it turned to the right they were convinced of their triumph. When a dog bayed by night, it was a demon prowling round, on the look out to occupy somebody whose owner (*pilli*) was away, that is dreaming; and those that heard it woke their companions, to avoid such a misfortune. If a horse jibbed or shied, it was because some spirit (*huecuvu*) stopped the path, invisible to them, but which the animal could see. Humble-bees were considered as the ghost of some chieftain; frogs were the keepers and purifiers of water. A fire crackling or throwing out sparks announced visitors; sneezing violently while gambling brought them bad luck, as did also the twitching of the eyelids. They also imagine that any portion of the body is endowed with the qualities of the whole. Here we have the reason of their wearing the skins or heads of wild animals; that of the puma to give them strength and valour; of the fox for cunning; of the snake to enable them to crawl unseen among their enemies; eagles' feathers to make them rapid and fearless in the attack. They believe that the wearing of these articles endows the wearer with the qualities they represent.

It is curious to note to what extreme this belief was carried. Among the Huilliches it is a common thing to make their dice from the thigh bone of some celebrated player; while in the Cautin they ornament their horses' bridles with the tail of some celebrated racer.

Some dreams were unlucky. Thus, for instance, to dream of losing a tooth signified death to some member of the family, as did also a black dog or a white *tordo* (blackbird).

Magic and Witchcraft.—As is natural in a race so imbued with superstition and fetish worship, the black art holds a high place in their imagination. Everything not immediately explicable by a natural and visible agency is put down either to evil spirits or to witchcraft. Their thaumaturgy included three class of theurgists; the *huecuvuye* or sorcerer, the *dunguve* or diviner, and the *machi*, witchdoctor or exorcist. This last vocation is common to the two sexes, and has gradually absorbed the other two classes.

The sorcerers were formerly the sacerdotal class, inasmuch as whatever rites, ceremonies, sacrifices or other religious observations took place were performed by them. They wore woman's dress and their hair long and uncombed; dwelt in caves in remote mountainous regions, and were supposed to be in communication with the *huecuvus* (hence their name) over which their arts gave them certain powers, compelling them to work their wills. These beings were held in fear and awe by the people, who attributed to them many of the ills that befell them. They were considered the arbiters of national or tribal welfare, and were consulted on all momentous questions. War was never declared, nor peace offered, except in accordance with their advice.

All those who sought their counsel, took with them considerable presents in payment for their advice or help.

Contrary to the practice of the *dunguves* and *machis*, their incantations and spells were secret and mystic, wrought in the darkness of their caves, and hidden from the eyes of ordinary mortals, although some of their charms were done visibly, such as seeing visions in a bowl of water, and blowing smoke from their mouths in the direction of the dwellings of their enemies. This smoke was regarded as the familiar spirit of the sorcerer, and the direction it took indicated the path the spirit followed. To enter this caste a long apprenticeship was necessary, terminating in a mysterious initiation ceremony.

The caves where these sorcerers dwell are supposed to be guarded by horrible monsters and evil spirits.

After the *huecuvuyes* come the diviners or *dunguves*, who are sometimes the acolytes or apprentices of the former, though not generally so.

The *dunguves* exercise a considerable influence in Indian society, as they are consulted on all doubtful points of social or domestic intercourse, and every-day events. It is they who indicate the author of a robbery, the whereabouts of a missing animal or mislaid object, the probable result of a given enterprise, the perpetrator of any evil happening to the flocks and herds. Their services are paid for in goods. Occasionally also, they are consulted respecting the cause of some mysterious death, but this is generally an attribution of the *machis* or exorcists. Ventriloquism is used by *huecuvuyes*, *dunguves* and *machis* alike. The *dunguves* perform their divinations outside their huts, their familiar spirit answering them from within.

By far the most popular and most consulted of these personalities is the *machi*; who combines in his person the offices of medicine-man, seer, and exorcist.

Of late years he has gradually absorbed the attributes of the higher professions, especially after the final conquest of 1884, since when the Indians have become more peaceful and settled. This profession is common to the two sexes, the learner graduating after a long apprenticeship to some well-established *machi.* The principal accomplishments are a profound knowledge of medicinal herbs, with which the forests and plains abound, a slight acquaintance with surgery, a considerable mastery of simple conjuring tricks, and the talent of ventriloquism. Many never attained to this last art and had resource to darkness and a different modulation of voice, which served the purpose equally well, although it was less dramatic.

The following is a list of the chief instruments of the profession :—

The *qucupu* or lancet ; a small pointed flint, similar in shape to a small arrow head, fastened to a wooden handle.

The *troquitue,* a small three-cornered stone which they pretended to pass through the body of the patient. If it came out clean the sick person would recover, but if it were stained with blood, the case was hopeless.

The *cutra,* or stone pipe, which played an important part in their cures.

The *ihue,* or wooden spitting bowl, into which the *machi* expectorated the humours sucked from the body of the sick.

The *troncu,* or dish, in which the remedies were prepared.

The *gatuhue,* or syringe, used for clysters, composed of a bladder and bone tube.

The chief of all, however, and without which no *machi* begins his operations, is the *ralicultrun,* or drum, inside of which are carried small white stones, *lican,* to which healing powers are attributed.

The *machis* are accompanied by two or more helpers or apprentices, *llaucanyi.* During the greater part of the *machitun,* or healing, they play on *puvilcas,* or shrill reed pipes, while the *machi* beats the drum and chants a low monotonous tune, at intervals breaking into a dance and hopping from one foot to the other, swaying his body and head now to this side, now to that, keeping time to the compass of the music. Meanwhile the crowd, who have assembled, keep up a shouting to frighten away the evil spirits that they believe are waiting round the dwelling, to carry off the soul of the sick person.

The curing of the sick is effected partly by exorcisms, and partly by manipulations and remedies.

It has already been mentioned that all diseases and sickness were supposed to be caused by the malevolence of evil spirits or by witchcraft. As a consequence the ceremony of exorcising partakes of the nature of a religious rite, the gods being invoked to combat the influence of the sorcery. It does not strike them as incongruous thus to invoke the aid of their deities against the acts of their own ministers or servants.

The direct cause of the illness is supposed to be either an invisible wound or some extraneous substance introduced into the body of the patient. This foreign element has to be extracted. For this purpose the *machi* goes provided with a worm, grub, beetle, lizard, or other small creature that can easily be hidden, and made to appear as if taken from the sick person.

If the patient dies, the *machi* saves his responsibility by declaring that he has been poisoned, and then proceeds to discover the poisoner.

To avoid feuds and reprisals, the blame was generally cast on a *huecuvu,* who had taken the form of some living creature, revealed to the *machi* in a trance, but was sometimes imputed to some individual against whom the exorcist had a grudge, or else to a known enemy of the deceased or his family. In such a case a hunt was made for the guilty person, and if caught he was burnt alive. Olivares, one of the Spanish chroniclers, described one of these executions:—

"Three stakes were driven into the ground in the form of a triangle. The victim was tied to one of them, which was stouter than the others, his hands fastened behind his back. His feet were fastened to the other two with thongs thus forcing his legs apart, obliging him to assume a sitting position. A fire was lighted between his thighs, which burnt them, his vitals, breast and face. Meanwhile he was demanded to confess his crime and declare his accomplices."

Guevara adds that they sometimes rubbed the victim's body with fat, to cause him greater torment. This led to reprisals on the part of the relatives, and was a frequent cause of intertribal warfare.

The *machis* have no hard and fast ritual for these ceremonies, but each one introduces the innovations he considers necessary. Their huts are known by the branch of *canelo* planted before the door, from which hangs the drum, symbol of their office.

Paderasty was common among the *machis* and still is to a certain extent, though not so much as formerly. Those who exercise the office are called *hueye.* They do not wear the chamal, but a skin apron, called *punus,* which is a sign of their calling. They wear their hair long, and use feminine ornaments. They were formerly greatly respected for their double functions, but now are despised by many of the Indians.

Under the heading of Ceremonies will be found a more detailed account of the *machitun* or witch hunting.

Morals.—There being no idea of sin, or future punishment for evil doing, religion exercises a very slight influence on the Araucano code of morals. The Indian's ideas of right or wrong must therefore be judged from a standpoint different from those of Christian races. Two facts of the utmost importance must be taken into account in forming an estimate of this question.

First: the wife is considered the absolute property of the husband, and he can dispose of her as he thinks fit, even to killing her, without anyone interfering any more than they would at the disposal of his other property. Secondly: the father possesses the right of life or death over his children, as they are part of his own flesh. If a father slew his child, they said that he was spilling his own blood. The same idea held good if a son killed his father.

When a wife was unfaithful to her husband, he was at liberty to inflict what punishment he thought fit, and could recover from the adulterer whatever value he determined upon, the woman in that case becoming the property of the payer. He could also sell her, or return her to her father as damaged goods, insisting on the price paid for her being given back.

Chastity is not prized among unmarried girls, and few of them are virgins at the time of their marriage. Once married, however, they are generally modest, chaste and faithful.

Violation is not considered a crime, but the violater renders himself liable to pay an indemnity to the father and to take the girl as his wife. Prostitution is common, many women exercising it as a profession, and going from village to village in pursuit of new lovers.

Infanticide is common. Children born with any deformity, or under unlucky circumstances, are frequently slain by their parents.

Neither incest, attempted suicide, nor libel are considered as crimes, while robbery is part of the daily life of the Indian. No stealing is permitted, however, in the clan itself, although as a general rule everything is considered in common.

Armed raids (*malones*) were constantly made on the neighbouring villages, and thus a continual state of warfare was kept up.

Drunkenness is carried to its utmost excess among the Araucanos, and during their feasts the most unbridled licence prevails. They then give themselves up to a sexual promiscuity that respects no condition or relationship, each one taking forcible possession of any woman that strikes his fancy or happens to be nearest at hand.

To this fact may possibly be due the custom of reckoning parentage and descent from the mother's side, it being frequently impossible to determine with any certainty who is the father of a given child. Among some tribes the eldest brother of the deceased inherits at his death, as being more certainly of his blood. This peculiarity attracted the attention of the chroniclers at the time of the Spanish Conquest, throughout America.

A redeeming trait of these Indians is their hospitality. An inhospitable person is generally condemned by public opinion, as sordid and mean. The guest is considered sacred to those under the same roof, and of the same *lov* or clan; and it is the duty of all to protect him and his belongings while he is within their jurisdiction. Any infraction of this rule is severely punished.

The chief virtue among them is that of physical bravery; then come personal endurance, both of pain and hardship, constancy in vengeance, and individual strength.

Laws.—When the Spaniards arrived in Southern Chile, they found the country divided into four natural divisions. The word *mapu*, land, was applied to all of them, being qualified by a distinctive name. *Larquen-mapu* was the sea-land or coast region, *Lelvun-mapu* or level land was the central valley, *Ina-piva-mapu* near the snow land, was the region of the lower Andes, and *Pire-mapu*, snow land, the upper ranges.

The error was fallen into of considering these as political divisions, instead of geographical; a mistake in which many later writers have continued. As a matter of fact there was no political organisation, as we understand the term, and the Araucanos recognised no supreme chief, save only in times of great national peril, and then only in a military sense, and by public election. The danger over, they returned to their former customs, the functions of the chief ceasing from the moment the army was disbanded.

The basis of their social and political life is the family, which develops into a clan, and afterwards a tribe, absolutely independent one from the other. The clan itself was called *lov*, the village occupied by it *rehue*, the group of villages inhabited by the tribe *ailla-rehue*, literally nine villages.

The clan or *lov* was governed by the head of the family or *ulmen*, the tribe by the hereditary descendant of the founder or *apo-ulmen*, a contraction of *mapu-ulmen*, chief of the land.

Their villages were small, the third generation generally leaving them to form another, at a short distance away.

The authority of these chiefs descended from father to eldest son, save in the case of physical or mental incapability, when a new chief is chosen, generally another son, brother, or near relative of the deceased.

The authority of these *ulmens* is, however, little more than nominal, and is confined almost exclusively to the direction of their feasts and ceremonies, and in a lesser degree to the political economy of the group.

All important matters are treated in common council by the adult males, the chief presiding at the meeting. No tribute is paid him, neither is he exempt from sharing the daily tasks of the clan, although in a general way he assumes the management.

Both the *ulmens* and *apo-ulmens* are known under the common title of *toqui*, from the stone axe worn round their necks, which is a symbol of their authority and which bears that name. The Spaniards following the custom prevalent through the whole of America gave them the generic name of cacique.

In time of national warfare, the tribes of the different zones or *mapu*, also called *vutranmapu*, united under a general or war chief called *lonco*. This post was usually hereditary during the time of the Spanish wars, although in the beginning the occupant was elected from among the most famous warriors by popular vote.

When the Araucanos began to adopt a more sedentary life, it became necessary to establish more firmly their *admapu* (customs of the land), or code of laws. Their quarrels were formerly settled by an appeal to arms; now however the *ulmen* called together the elders of the clan and they deliberated on the evidence given, and imposed punishment for the crime committed. It was not considered necessary to hear the offender.

In the case of death by sorcery, the guilty were condemned to die by fire in the manner already described.

Murder, maiming, adultery, robbery, or any minor crime were punished by a fine, to be paid by the offender or his relatives. In the case of murder, if the prisoner were poor and unable to pay, he was generally condemned to death, and immediately on sentence being given was led out and despatched with a stone club. It frequently happened, however, that the condemned and his relations offered resistance to the decisions of the council. This almost invariably happened if he belonged to another clan or tribe. The result was a *malon* or sudden attack, and was the source of continual intertribal warfare.

The law of retaliation was the only one understood, although the keen commercial spirit of the Araucano led him to forego personal vengeance for its accruing profit. Thus every injury had its price, which varied with the importance of the offended. The price of a death, and in this case accidental death, or homicide in self-defence, ranked with murder, was that of ten *llancas*, strings of green and black stones, generally silicates of copper. This payment was called *llancatun*. Traitors and kidnappers were also punished with death.

Robbery committed in the same clan or tribe was compounded by a payment in kind, but with considerable increase according to the social position of the offender. If caught in the act he was publicly whipped, sometimes to death.

Adultery was not considered as an outrage to the honour of the husband, but a damage to the feminine property of the offended, and was punished by him at will, either by the death of the wife, or her sale, but most frequently by a heavy compensation by the co-respondent, except in the case of the culpable parties being caught *flagrante delictu* when the husband was within his right in slaying them both.

Parricide, infanticide, wife-murder, intentional abortion, and similar acts committed within the first rank of blood relations were not considered as crimes, it being held that these relations were of the same blood, and that it was allowable for anyone to shed his own blood.

Immorality and indecency, even the most depraved, were not considered as faults, the men and single girls enjoying unquestioned right to dispose of themselves and their bodies as they thought fit, and during their feasts the utmost licence prevailed, absolutely no bonds of relationship being recognised in their drunken amours, even incest being of the most frequent occurrence.

At present the jurisdiction of the tribes is nominally under the charge of the Chilian judicial authorities; but only in extreme cases are these courts appealed to, the Indians still retaining their old customs in the majority of districts, although there is an increasing tendency to recur to these tribunals in all civil cases.

Relationship.—Among the Araucanos, relationship was recognised to the fourth generation. This, and the fact of polygamy being an institution among them, accounts for the fact of the family groups, clans, and tribes, being at times very powerful, a chief's importance, socially and politically, depending directly on the number of male relations he could muster and on the number of unmarried daughters (basis of future alliances and riches) that he possessed.

Three ranks of relationship were recognised :—

(1) Those of direct ascent or descent: consanguinity.
(2) Collateral ascent or descent:
(3) Relations by courtesy: Marriage relations.

The first class were as follows:

Father, *chau.*
Father's father, *lacu.*
Father's grandfather, *epuchi lacu* = twice grandfather.
Father's great grandfather, *culachi lacu* = three times grandfather.
Father's mother, *cucu.*
Father's grandmother, *epuchi cucu.*
Father's great grandmother, *culachi cucu.*
Mother, *niuke* or *papaī* (*pa-pie*).
Mother's father, *chedchi*
Mother's grandfather, *epuchi chedchi.*
Mother's great grandfather, *culachi chedchi.*
Mother's mother, *llalla* (*lya-lya*) in the northern provinces and *chuchu* in southern.
Mother's grandmother, *epuchi llalla.*
Mother's great grandmother, *culachi llalla.*
Son, *votem.*
Son's son, *lacu,* same as grandfather by father's side; really means blood relative (male) once removed.
Son's grandson (always direct male line), *epuchi lacu.*
Son's great-grandson, *culachi lacu.*
Daughter, *niahue.*
Daughter's son, *chedchi.*
Daughter's grandson, *epuchi chedchi.*
Daughter's great grandson, *culachi chedchi.*

The daughter's progeny and their descendants are called by the same names as the mother's ascendants; *cucu, epuchi cucu, culachi cucu, llalla,* etc.

The collateral relatives were named as follows:—

Brother, *penyi.*
Brother's son, *malyi.*
Brother's grandson, *lacu.*
Brother's daughter, *malyi niahue.*
Brother's granddaughter, *chedchi.*
Sister, *lamgeu.*
Sister's son, *choquem.*
Sister's grandson, *chale choquem.*
Sister's daughter, *malen choquem.*

Sister's grand-daughter, *chale choquem.*
Father's brother, *malyi.*
First cousins male in general, *udam penyi.*
„ „ female, *udam lamuen.*
Second cousins, *epuchi udam penyi,* or *epuchi udam lamuen.*
Father's sister, *palu.*
Mother's brother, *huecu.*
Mother's sister, *niukentu.*

Marriage relations.
Wife's father, *puinyimo.*
„ mother, *nanen.*
„ brother, *vilyica.*
„ sister, *nyadu.*

The collateral relations took the same names:—
Husband's father, *Kempu.*
„ mother, *Llalla.*
„ brother, *ngilyanyi.*
„ sister, *kerun.*

The other relations by matrimony took the names of the corresponding blood relations:—

Stepfather, *pelcuchao.*
Stepmother, *nyenye.*
Stepson, *malyi notem.*
Stepdaughter, *malyi miahue.*
Wife, *cure.*
Husband, *vuta* (*grande*).
Consort (of either sex), *pinyom.*
Mistress, *unyam.*
Children in general, *conyi.*
Natural children, *vuchen.*

In general the Araucano women have limited families, and, owing to the little care their offspring receive, the infant mortality is very great. As soon as they can run about the children are left to their own resources almost absolutely, and from a very early age take an active part in the licence and debauches of their parents. Owing to the continual warfare and the desire to bring up robust and warlike descendants, all misformed or delicate children were slain at birth. Twin children were considered unlucky, and either one was brought up in the family of some near relative as their child, or it was killed at once. A child born feet foremost was also considered unlucky.

Marriage Customs.—Polygamy is very generally practised among the Araucanos, the only limit to the number of wives a man may possess being his ability to provide the purchase price, and to maintain them and their families. Formerly it was common for a chief of importance to have as many as twenty, but now the number rarely passes four or five. The first wife (*onen domuche*) has, however, a certain moral ascendency over the others (*mau domuche*). As a general rule there is little jealousy among the wives, who take it in turns, either daily or weekly, to attend to the personal wants of the husband, as also in sexual intercourse. It is probable that formerly exogamous customs prevailed, but at present the only restrictions imposed are that a man may not marry his mother or sister. What seems to indicate that exogamy was an ancient practice among these Indians, is the fact that all marriage ceremonies begin with the pretended rape, or carrying off of the bride, which of late years has given way to a simple elopement, unless the bride be unwilling, when the older custom is resorted to. The marriage ceremony consists of two parts; the rape (*leventun*), and the payment (*mavun*). Having arranged the price with the father or eldest brother of the girl, the bridegroom arranges the details of the rape. He calls together his male relations, and while one of them goes to the bride's house on some pretext or other, the rest make a sudden attack on the dwelling. This is energetically resisted by all the womenfolk, the men of the household remaining passive spectators. One of the raiders seizes the struggling girl, and none too gently drags her to where the bridegroom is waiting on horseback. Placing her in front of him the latter gallops off to the wood. Here the pair remain for three days, food being taken to them by their friends. After this the bridegroom takes home his bride to the hut he has already prepared for her. This custom of carrying off the bride is only practised in the case of the first wife. A few days later comes the feast of the payment (*mavun*), to which all the relatives of both parties are invited. The price paid varies according to the status of the bride. If she is of superior rank, the payment sometimes reaches as high as ten or twelve animals, cows, mares, or sheep; an approximate value of about £12 to £14 sterling. A poor man obtains a wife of his own class at the cost of a few shillings. If a bridegroom cannot pay at once the whole of the price agreed upon, he lives with his father-in-law till the debt is cancelled. Generally he puts the whole of his relations under contribution, and, as this debt is considered one of honour, it is usually paid in a very short time. If it were not paid within a reasonable period, the father could recover his daughter. The husband could only refuse to pay when the wife died prematurely, and could demand the return of the value given if she abandoned her home.

Marital Customs.—It was a former custom not to permit a woman to give birth to a child within the precincts of the village, as it was considered to cause infectious diseases. She was driven out, on beginning to feel the labour pains, and retired to the banks of the nearest stream or lake. As soon as the child was born the mother stepped into the water and performed the necessary ablutions, returning afterwards to a small hut constructed for the purpose near the *ruca*, which constituted her home. Here she remained a week attended by some compassionate friend. At the end of this time she bathed again, and returned to her own home, where all her relations and friends were assembled to celebrate a feast in honour of the babe. These customs are at present considerably modified, and the birth takes place in the *ruca* itself. The mother takes up a kneeling posture during labour, holding on by a thong fastened to a post. She is attended by her friends, and a midwife (*elputrave*) assists at the birth. The men retire outside the hut and receive with laughter and coarse jokes the complaints of the sufferer and the cries of the newly born. After the birth both mother and babe are bathed.

The baptism and naming of the child take place shortly afterwards. Some friend of the father offers himself as godfather (*lacu*), and requests that the babe, if it be a boy, may bear his name, the celebration feast being at his expense. Among other presents he provides a sheep, with the blood of which crosses are made on the forehead and temples of the child. This is an innovation of Christian origin, and dates from the time of the Spanish occupation. In the neighbourhood of the towns and missions the children frequently receive a Christian baptism, and take as names the most common of the calendar, their father's name passing as a surname.

A man does not cohabit with his wife after childbirth till the child is weaned, which does not take place till it has cut all its teeth.

When a man dies his eldest son inherits his wives, together with his other property, and from that moment takes them to wife himself, save only his mother, who recovers her freedom and may marry again. If he leaves no son, his eldest brother inherits and acquires the same rights. Sometimes the wives are distributed among all the brothers of the deceased in order of priority of marriage, the first married to the eldest brother, etc., or they can recover their liberty on paying to the heir the price they cost.

Totemism.—Although totemism is not in vogue among this race at the present day, there is reason to suppose that it was so at no late period.

The probability of exogamous marriage customs having formerly existed has already been referred to.

The custom, at one time universal, of giving children the names of animals, birds, or inanimate objects seems to indicate that these names might have belonged to the clan totem, especially as even recently it was no uncommon thing to find numerous persons in the same family group with the same name, only modified by some distinguishing adjective, as *Nahuel*, tiger; *Nahuelcolu*, red tiger; *Nahuetripai*, leaping tiger; *Luan*, huanaco; *Mariluan*, ten huanacos; *Loncoluan*, huanaco's head; *Vilu*, snake; *Quilavilu*, three snakes; *Coluvilu*, red snake, etc., etc. These names have gradually changed into surnames, owing to the custom of giving the children other names at baptism.

The Araucanos believe they originally descended from the animals whose names they bear, but have no clear idea as to whether this descent was on their mother's or on their father's side, although most of them incline to the former.

The corporeal forms which they assign to their divinities also indicate that there has been formerly an animal worship, which was possibly only a transition from totemism, and may have originated in some form of ancestor worship. Thus the *Cherruve* are represented as serpents with men's heads, *Meulen* as a lizard, *Nguruvilu* as a wild cat with a serpent's tail, *Huaillipenyi* as a sheep or llama with a calf's head, *Pichuichenyi* as a winged snake, etc., etc. These double-natured or hybrid conceptions probably represent the clans among which intermarriage was most common. For instance, the wild cat clan could marry into the serpent's clan, and *vice versâ;* the new community thus formed would be represented by the *Nguruvilu.*

In the course of time the founder of a family, especially if it became a powerful one, would be regarded as a hero, after which it was but a step to his apotheosis.

The custom of painting the face and body before entering battle may have had some connection with totemism, although the chroniclers have left us no record in this respect, contenting themselves with calling attention to this custom. At present, however, totemism seems to have given place to shamanism, and the earlier customs have fallen into disuse and oblivion.

Incest is common during the drunken orgies, no relationship being respected. Marriage among kindred and within the clan is common, and no prohibition attaches to the killing or eating of special animals, although there are a few such superstitions among the elders.

Shamanistic bodies now exist, although their origins are wrapped in mystery. Such are the *huecuvuyes*, or sorcerers, the *dunguves*, or diviners, and the *machis*, or medicine men. These groups are supposed to have certain powers over the powers of good and evil. But contrary to most shamanistic societies there is very little cohesion among their members, and no organisation, neither do they recognise any head. Their functions are practised independently, much after the system of the followers of our modern professions. They only recognise each other as colleagues, and each is respected only according to his degree of skill in imposing on the multitude. Their influence is not political, and they take no active part in the government of the tribe, save in times of tribal or national peril. They officiate as priests, however, in the few religious ceremonies that take place among the people.

Cannibalism.—At the time of the Spanish invasion the Araucanos were still cannibals, although now it is nearly a century since the last well authenticated case was recorded. This cannibalism was not general, however, and was only practised on prisoners taken in battle. The occasion was made to serve as a national feast. The prisoner was made fast to the trunk of a tree, where he became for long hours the target for the jibes, jeers and taunts of the multitude. When his tormentors had drunk sufficiently, and had worked themselves into a frenzy, he was subjected to a thousand torments, till his captor rushed forward and hacked off a limb or piece of flesh from where he thought proper with a stone or shell knife. This was the signal for the rest, who came one at a time, each one cutting off a portion of flesh, until the bones were stripped and life extinct. Men, women and children partook of the feast. The flesh was sometimes roasted, sometimes eaten raw. Before life was quite extinct they opened the breast and tore out the heart, which was passed from hand to hand among the chiefs and captains, each one biting it and sucking the blood and sprinkling it to the east.

In later years this cannibalism was gradually discontinued, although the prisoners of war were still sacrificed. It became the custom to slay them with a stone club, the chiefs biting the heart and sucking the blood as before, after which it was carried round the village in procession together with the head, both stuck on the points of long lances. The flesh was stripped from the limbs and the bones used for making flutes and whistles. The trunk was then thrown out to the dogs and birds of prey. The heads of the enemies slain in battle were cut off and carried in triumph to the villages, where they were afterwards used as drinking vessels in the feasts.

War.—The Araucanos were essentially a warlike race, as their prolonged resistance, of nearly three centuries, to the Spanish arms clearly demonstrates. During this long period their military organisation became much perfected.

When war was declared, one of the *toqui* (war chiefs) sent round a bloody arrow to all the other war chiefs, by a special messenger, who also carried a *quipu* or *pron* of red woollen cords with certain knots tied in it, indicating the time and place of the general reunion. This *pron* contained one cord for each chief invited, and on receiving it he added certain knots to indicate the number of followers he could muster, afterwards sending it on with much secrecy to the next chief. These reunions generally took place in the spring. Here were discussed the causes for declaring war, the arrangements for the coming expedition, the number of warriors each district should provide, and the levies of provisions to be contributed by each *rehue.* Here, too, the general in chief was elected from among the principal *toqui.*

Once the date of the expedition was decided, the preparations were carried on with much secrecy. The warriors were chosen, and practised in gymnastic and warlike exercises daily. A general abstinence, especially from intoxicating liquors and sexual intercourse, was adopted, while great attention was paid to the thorough preparation of arms. When the army was assembled, the general named his chiefs of divisions, who in turn selected their officers, and distributed the *conas* or soldiers.

Before marching it was customary to discuss the plan of campaign, and all its details of stratagems, ambushes, attacks, surprises, etc.

At the time of the Spanish invasion it was the custom to march in disorderly bodies without any attempt at formation; but experience taught them to organise their methods better, and a stricter discipline was established and bodies of scouts thrown out in advance. But no discipline was of avail when some superstitious incident occurred upon the march, if such were considered inauspicious. The army immediately broke up and returned to camp. All discipline was lost, too, at the moment that booty presented itself. Then it became each one for himself.

Before the arrival of the Spaniards and for some time afterwards, the army was composed entirely of infantry (*namuntu linco*); but later on considerable bodies of cavalry were maintained.

The arms consisted of bows and arrows (*pulqui*), lances (*rengi*), spears (*huaiqui*), slings (*huitruhue*), and clubs (*lonco quillquill*). The bows were small, and the arrows thin bamboos, either sharpened, or with stone heads with serrated edges, and occasionally pointed bones. Sometimes their arrows were poisoned with the juice of the *coliguaya oderifera.* This poison was carried in small stone or earthenware jars, and smeared on the arrow tips immediately before use. The Spaniards applied salt to the wound as an antidote. The lances were long bamboos, from 15 to 20 feet in length, while the spears were about half this length. Both had stone or bone heads, or else were pointed and hardened in the fire. Their clubs were formed from *luma,* an exceedingly hard and heavy wood. They were generally more than 6 feet long, and were shaped with an elbow, like a modern hockey stick. The curved end was frequently spiked with sharp flints. They were used with both hands and were a most dreaded weapon, as no armour resisted a downright blow. The curved end was also used for dragging the wounded from their horses.

According to the testimony of the chroniclers, these Indians were very clever archers, living almost entirely by their skill in the chase. They advanced to the attack in close phalanxes. In the first ranks came the lances and spears, behind them in more open order the archers and slingers. These squadrons seldom numbered more than one hundred men, and were hurled against the enemy in rapid succession, each making its attack, and retiring to give place to a new company. Thus they continually presented a fresh and untiring front.

Later on they became expert in the construction of fortifications. These were generally built on a small hill, four-square in form, and constructed of trunks of trees, planted upright in the ground. Inside this enclosure was a smaller one which formed the real redoubt, arranged in the form of a palisade, with loopholes for archery. For a considerable space outside, the ground was honeycombed with pitfalls and ditches, lightly covered with branches of rushes and turf, at the bottom of which sharpened stakes were planted.

After a victory, a great feast was celebrated. On this occasion the prisoners taken were sacrificed, and another ceremony called the *pruloncon* or head dance was performed. A bushy sapling was planted in the ground and on its branches were placed the heads hacked from the enemies during the battle, each one adorned with flowers and garlands. Round this tree the Indians danced and sang songs of victory, each one chanting his own valiant deeds, and jeering and insulting the remains of their foes.

The disbanding of the army after a campaign took place without any order› each unit taking the nearest route for his home. The same happened after a defeat.

Burials.—All deaths, save those caused by battle or combat, were supposed to be the effects of supernatural causes or sorcery. If a person died from the results of a violent accident it was supposed that the *huecuvus* or evil spirits had occasioned it, frightening the horse to make it throw its rider, loosening a stone so that it might fall and crush the unwary, temporarily blinding a person to cause him to fall over a precipice, or some other expedient equally fatal.

In the case of death from disease, it was supposed that witchcraft had been practised and the victim poisoned. On a death of this kind occurring, the first thing done, if the person were of any rank, was to practise the autopsy (*cupon*), which consisted in opening the side of the deceased, and extracting the gall-bladder to discover the poison used, and also to obtain a clue as to the guilty person. These customs still prevail in a large number of localities.

The gall is emptied into a small earthenware platter, and calcined over a slow fire. The colour of the residue indicates the class of poison used. The colours generally recognised are six in number: white, black, blue, yellow, red, and viscous brown.

The corpse is then hung in a wicker frame, from a *roble* (kind of oak), and under it a fire of green *canelo* wood is kept smouldering till such time as the perpetrator be found and punished.

This evil worker was generally pronounced by the *machi* to be a malignant spirit, who had taken the form of a beast, bird, reptile, or insect, and whose identity was revealed to him in a trance. Frequently these agents are distinguished by some peculiarity or unusual colour which makes it extremely difficult for the relatives to encounter its simile for the sacrifice that is necessary, before proceeding with the burial.

When, as sometimes happened, the *huecuvu* has taken some impossible form, the *machi* allows the interment to take place, sacrificing in its place some other animal, usually a sheep. The coffin is not always of the same pattern or material. Sometimes it is a wickerwork basket, at others a box or shell made from rough hewn slabs, and frequently a tree trunk split in two and hollowed out, each half having the form of a canoe. Originally, the last form may have been intended to provide a means of embarkation to cross over to the island of Mocha, the supposed starting place for their future abode.

When the day is fixed for the burial the whole village, or tribe in the case of a chief, assemble before the hut of the deceased to take part in the mourning and wake. Each one brings some present of food or liquor for the feast, or some offering for the interment.

The lamentations and funeral chants alternate with onslaughts on the provisions and liquors provided for the occasion, and continue that day and the greater part of the night. On the following day the corpse is dressed in its newest clothes, and placed on a litter adorned with branches of *canelo* and laurel. The litter is borne to the burial ground on the shoulders of four of the nearest male relations. When the procession leaves the house the whole assembly utter shouts and lamentations, which are kept up till the funeral is over.

The graves are dug to the depth of about 4 feet, and are generally square in form.

The presents brought by the mourners are buried with the corpse, together with supplies of food, clothing and arms, to provide for his long journey. A sheep is sacrificed over the grave, and sometimes a horse, or the latter is buried with the corpse if the distance to the coast is considerable. With this sacrifice, the burial proper concludes, but the orgies and feasting continue till the provisions provided are entirely consumed, and sometimes last for several days.

Ceremonies.—The following account is abridged from notes taken on the spot during my stay among these Indians in 1892, when I was fortunate enough to be a personal witness of some of their principal ceremonies.

Culapan (three lions or pumas), head chief or *apo-ulmen* of the *aillarchue* of the upper Cautin, had died suddenly, probably of apoplexy, during a feast in a neighbouring village. This manner of death, so uncommon among the Indians, there being no visible cause to explain it, was immediately set down to witchcraft. The corpse was brought home, attended by the whole population of the *rehue* where the death had taken place.

The *machi*, or medicine man, was sent for, and a summons sent round for all *toquis* of the neighbouring villages to assemble with their *conya*, or braves. The *machi* arrived a little before nightfall. He was dressed after the fashion of the women, and had a puma skin hung round his loins and dragging behind him on the ground. In his right hand he carried a wand about 18 inches in length, covered with snake's skin and garnished with human teeth. Two assistants accompanied him carrying the instruments of his profession.

At sunset a fire of green *canelo* wood was lighted before the door of the *ruca* around which more than a hundred persons gathered. From this fire arose a thick pungent smoke, which completely shrouded the entrance of the hut.

The *machi* took his stand in front of this fire, with arms extended, face upturned, and eyes unblinking for more than half an hour, inhaling without flinching the clouds of suffocating smoke that enveloped him, and seemingly lost to everything around him.

Suddenly he recovered consciousness, and rushed into the hut where the body was laid out on a bed of skins. What he did there, no one could tell, but after a short while he reappeared, showing signs of mental and bodily exhaustion.

The corpse was now brought out and laid on a rude bier near the fire. One of the assistants proceeded to strip it of its garments, after which he made an incision in the side a little above the hip, placing two sticks in the lips of the wound to hold them open. By this operation the liver was disclosed. The gall bladder was taken out, slit open, and the contents received in a small saucer-like vessel. A few embers were raked together, and the pan placed on them. Every now and then the *machi* would bend over and examine it intently.

The crowd, which was momentarily increasing, sat round at a respectful distance watching the proceedings with profound interest. Only a few of the nearest relatives were allowed within the inner circle, in the capacity of helpers. The whole scene was lighted by numerous torches.

When nothing remained in the saucer but a little sediment, it was taken from the fire, and again carefully examined by the *machi.* This sediment, which I afterwards saw, was of a dark brownish green colour. The examination finished, the *machi* declared that the deceased had died of black poison (*curevunyapue*).

The relatives now insisted on his discovering the poisoner. At first, the *machi* seemed to demur and remained sitting in a crouching posture before the fire, his knees drawn up and his face buried in his hands. It was soon seen, however, that this pretended reluctance was only assumed for the purpose of obtaining greater promises of reward. At length his cupidity being satisfied he took a sudden resolve, and smearing the point of his wand with the residue left in the saucer, he stalked among the ranks of cowering Indians, who now drew apart from each other, none knowing on whom the charge might fall, and although each knew himself innocent, fearful of being considered an accomplice if found conversing with the accused.

Heedless of the commotion, the *machi* moved through the crowd, waving the stick in all directions, and crying aloud in a harsh voice, *Gunemapun alkine cheu melepi huye*—Lord of the earth, where is the wizard? *Penelelmen chi huye*—Show me the wizard.

The Indians prostrated themselves before him, covering their heads with their ponchos, so that they should not be distinguished.

In the course of a quarter of an hour he had made the round of the whole assembly without, however, discovering what he sought. Returning to the fire, he threw on some fresh logs, and then stood for a long while buried in contemplation, while little by little the Indians recovered confidence. At last, he traced a circle on the ground, and stuck his wand upright in the centre. He then took from one of his assistants an earthenware jar, which he also placed within the circle. In this jar he placed a lock of hair cut from the head of the corpse, the parings of its finger nails, and several threads drawn from the garments it had worn at the time of its death. Making several passes over this jar, he finally dropped into it a lighted brand, repeating his former cries. He then drew several rude figures of birds and familiar animals round the outer edge of the circle.

Finding no result, he now seized his drum, and agitated it violently, causing a loud rattling from the stones contained in its interior, his two assistants accompanying him on reed pipes or whistles. In a few moments he began a wild dance, executing the most astonishing capers, jumping into the air, swaying his body from one side to the other, leaping from one foot to the other, meanwhile keeping time to his drum.

By degrees, the dance became more and more furious, the contortions more complicated, and at length he broke out into a wild monotonous chant. This was kept up till human nature could stand no more, and he fell back in a fit, or state of coma, produced by utter exhaustion.

The attention of the crowd now became painful, every one waiting for some sign of returning consciousness. In about a quarter of an hour, the twitching of the limbs told of returning life, and in a short while he suddenly sat up.

When his faculties were a little clearer he again took his wand, and holding it loosely between his fingers, let it drop in the centre of the circle. Naturally, it fell across one of the figures drawn round the edge. In a short time he announced that the chief had been slain by an enemy who had taken the form of a black *caita* (wild bull), and that it was necessary to sacrifice such an animal, when the evil-doer would immediately suffer for his act.

Six young men, near relatives of the deceased, were told off for the hunt, and with very slight preparations, they saddled their horses and disappeared into the night, while the crowd gradually broke up, only the relatives remaining to take part in one of those debauches in which every Indians' reunion terminates.

In the early morning, I took advantage of the comparative quiet to look for and make a drawing of the circle and figures drawn by the *machi* the night before.

The figures were meant to represent respectively, a horse, a partridge, a wild bull, a cock, a puma, and a vulture.

It is peculiar to notice that while all the animals are drawn with two forelegs none of them have more than one hind leg, while all the birds have three toes. The diameter of the circle was about 2 feet.

Soon after sunrise, the corpse was suspended in a wicker basket from a large tree which grew in front of the hut. A fire of green *canelo* was lighted under it and the deceased's wives appointed to look after it.

It was not till the morning of the sixth day that the hunters returned dragging with them, held by two lassoes, a black bull, about two years old. The victim was fastened to stout stakes near the spot where the corpse was suspended, and the whole assembly, which had quickly drawn together on hearing the news, joined in cursing and reviling it.

Meanwhile, the drunken debauch had been kept up without intermittence, and every kind of licence indulged in. The following day was appointed for the funeral. Every one was early astir, and busy in the arrangements for the ceremony.

A coffin was constructed of hewn slabs. The body (*alhue*), black and shrivelled, was taken down, dressed in new clothes, and placed upon a bier (*pilyuay*) constructed of poles, over which a cowhide was stretched. The bier was adorned with branches of *canelo*, their sacred tree, laurel and myrtle.

The chiefs of the villages and the heads of families now brought their presents, consisting of liquors, mantas, chickens, lambs, cheese, milk, corn, cakes or other articles of food, and laid them on the ground near the corpse. As each one deposited his gift, he uttered loud cries and lamentations, which were taken up and repeated by the women. When everything was ready for the burial the procession was formed. The bier was borne by six of the eldest chiefs, behind whom came the coffin-bearers, the remaining chiefs and near relatives of the deceased. After them followed the wives and general body of the Indians, numbering more than two hundred. From the moment the bier was lifted from the ground the whole assembly began to utter loud cries and lamentations (*avavan*) which were kept up at intervals during the whole ceremony. The procession was headed by the *machi.* The wild bull had already been dragged to the grave, dug by the young men with sharp-pointed sticks and wooden shovels. The cemetery (*eltun*), was situated on a slight eminence about 300 yards to the west of the village. During the march thither, several of the braves (*mocetones*), mounted on their best horses, and tricked out in all their finery, rode round and round the procession, brandishing their lances, and shouting fiercely to drive away the *huecuvus,* or evil spirits. On arriving at the grave the bier was placed near it, and two of the chiefs pronounced funeral orations eulogising the departed. They were frequently interrupted by the howls and sobbing of the mourners. When the orations were finished the bull was sacrificed. Its throat was cut by the *machi,* who caught its blood in an earthenware vessel, which was passed round among the relatives and the blood drunk. The *machi* then cut open the carcase and tore out the heart, which was also passed round. Each in turn gave it a fierce bite and sucked a little of its blood, uttering curses and revilings as he did so. After it had made the round it was placed in a skin bag and hung round the neck of the corpse. The young men had been busy meanwhile skinning the bull. The hide was stretched on the bottom of the grave. The latter was about 8 feet long, 5 feet wide, and 4 feet deep. The coffin was placed on the skin and the corpse laid in it with the head turned toward the west. The cover, a thick slab, was placed in position and kept down by heavy stones, the cries and sobs of the mourners meanwhile increasing.

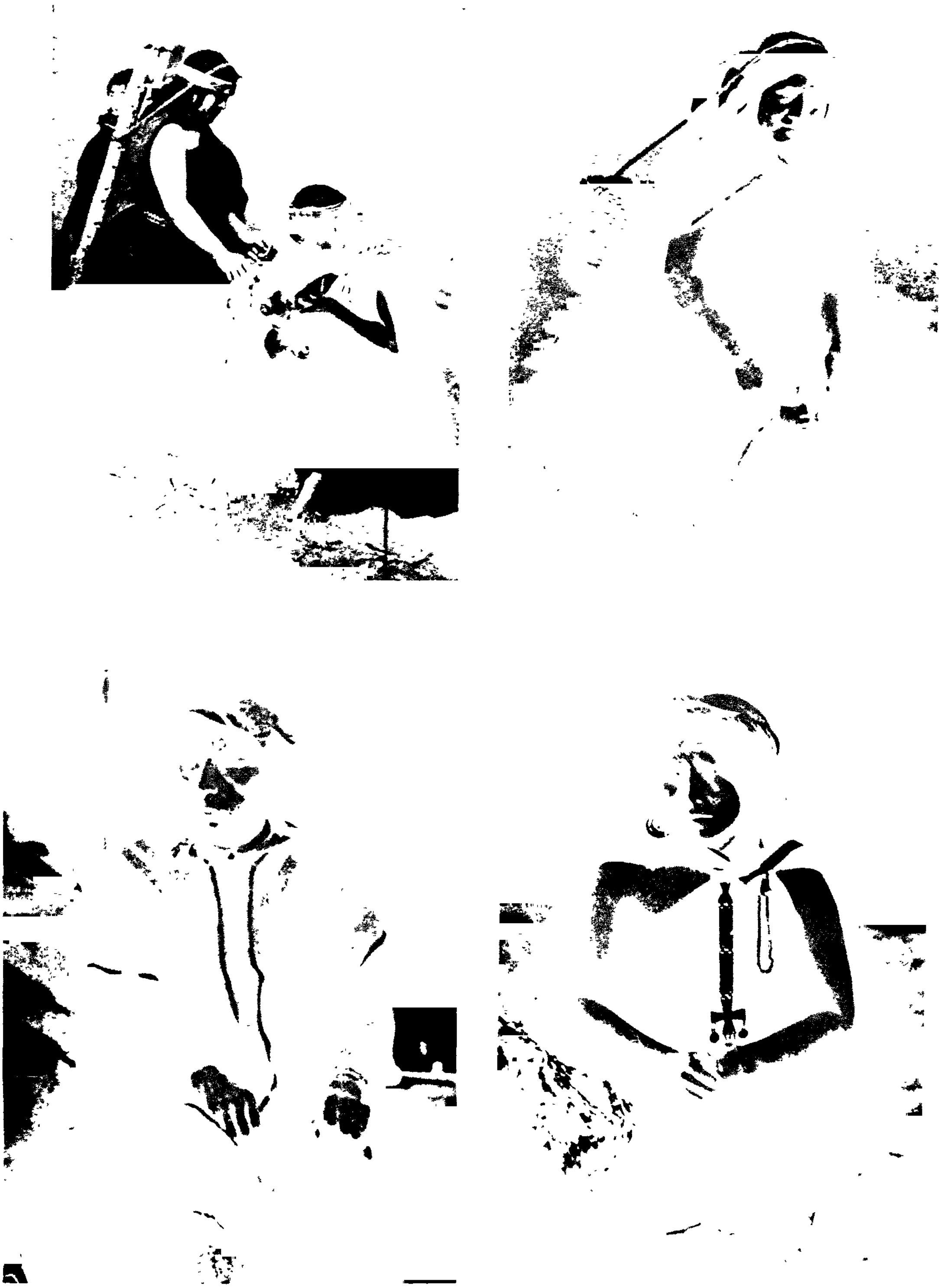
The presents were all placed in the grave, around the coffin. The grave was then filled in, each person as he passed taking a last farewell of the dead, and throwing in a handful of earth, some sprinkling a little *chicha* (cider) to the four cardinal points. At the head of the grave a *chemamluyi,* or wooden effigy, representing the deceased, was planted. It was crowned by a head-dress resembling in form the silk hat of civilisation. These figures are now frequently replaced by a cross. The favourite horse of the buried chief was slain over the grave, and both it and the carcass of the bull were left there after being slightly covered with earth. The funeral over, the crowd returned to the village, where the feasting and debauchery were kept up for several days, more than one fight occurring, without, however, serious consequences.

The hardihood of these Indians is astonishing. When they fall out they beat and hammer each other with extraordinary ferocity, neither attempting to parry the blows of the other. One strikes the other full in the face. The latter without immediately retaliating, seems to consider it a point of honour not to show any feeling, but does all he can to increase the other's wrath. "More," he says, "give me more, can't you strike harder? That was a woman's blow. Strike harder." At the same time he advances his face to receive the shower of blows that is sure to follow. When his contender pauses, he repeats his cries and taunts, and if no more blows are forthcoming he proceeds to batter his opponent. When both are tired out they each return to their drinking, as if nothing unusual had happened, as good friends as before, each one extolling his own powers, not, however, alluding to the punishment they had been able to support, but to the number of blows he had been able to strike.

Some little time after the burial of the late chief the Indians again re-united for the election of his successor. This was necessitated by the incapacity of the only living son of the deceased, who under ordinary circumstances should have succeeded his father. He was, however, *entren* and *cutranquetro* (lame and a stutterer), two grave disqualifications in the eyes of the Indians. There were two candidates for the chieftainship, both nephews of the deceased; Loncoguru (Foxhead) and Quilamanqui (Three condors). Both were strong, well made men, and good orators, qualities highly esteemed among the Araucanos. If Loncoguru was the swiftest runner of the tribe, Quilamanqui could hold out longer. Though the horse was not foaled that Loncoguru could not ride, yet who could throw the lasso like Quilamanqui, or swim like him. Loncoguru had fought for two hours with a famous Pehuenche chief and had finally come out victor, but Quilamanqui armed with only a club, had attacked a puma defending her young, and had brought off her kittens, and still wore her skin as a trophy. In such circumstances the election was not easy, and each candidate had a numerous following. The heads of the families, to the number of about one hundred, seated themselves in two long rows, facing each other. Each individual had a jar of cider by his side, which was replenished from time to time by the watchful womenfolk. For about two hours continued a scene hardly to be described. Everyone expressed his ideas at the top of his voice. All spoke together, no one paying the slightest heed to what anyone else was saying, interrupting their discourse only to take long draughts of cider. At last something like order was restored. One of the elder chiefs rose to his feet and addressed the meeting. He was followed by another and yet another. Finally, one of the candidates, Quilamanqui, arose and began a long oration, which lasted for over five hours, and concluded only when the speaker was absolutely exhausted. His opponent next took the floor, but owing to his having probably drunk deeply, while his rival was addressing the assembly, his oratorical powers were completely expended in a little over three hours.

Night had now set in, and most of the Indians were deeply intoxicated, lying around in the utmost disorder. Others who were either of a stronger constitution, or had not drunk so much, were indulging in the most unbridled licence. Many of them seized the first woman who passed near them and staggered off into the darkness, dragging their struggling companion by the hair, and showering blows upon her if she showed any signs of unwillingness to accompany them. The following morning the sitting was renewed, and a number of small coloured sticks were distributed among the electors. Each man received two, one blue and one red, the colours representing the candidates. The eldest chief went round the assembly with a skin bag, into which each individual dropped one stick, the other being broken and cast away. When the round was completed the sticks were paired and thrown into the fire. After the pairing it was found that there were nine blue ones left over. Quilamanqui, whose colour was thus victorious, was now proclaimed the elected chief. More speeches followed, and the feast was kept up several days longer at the expense of the new chief, who not only assumed the title, but also inherited all his uncle's property, including the wives and unmarried children.

NOTES ON THE ETHNOLOGY OF THE ARAUCANOS.



NOTES ON THE ETHNOLOGY OF THE ARAUCANOS.

THE KUKI-LUSHAI CLANS.

BY LIEUT.-COLONEL J. SHAKESPEAR, C.I.E., D.S.O.

THE home of the clans with which I propose to deal lies in the tumbled mass of hills separating the plains of Burmah from those of Bengal and extending from the valley of the Brahmaputra to the sea. In 1777 the East India Company's official styled "The Chief of Chittagong" wrote to Warren Hastings, who was the Governor-General, reporting that a disaffecting mountaineer had called to his aid "large numbers of Kuki men who live far in the interior of the hills, who have not the use of fire-arms and whose bodies go unclothed." Lieutenant Stewart in his *Notes on Northern Cachar*, dated 1855, states that the "Old Kukis emigrated from the Jungles of Tipperah, the hilly country south of Cachar, some fifty or sixty years ago," that is about 1800. In 1848 another eruption of Kukis into Cachar took place. These later arrivals were called the New Kukis, and differed in many respects from the old, and strange to say both linguistically and ethnographically the Old Kukis are more closely allied to the Lushais far off to the south, than to the New Kukis, who followed them into Cachar, and with whom we should have expected them to be closely connected.

These Kuki clans are now scattered over a very wide area, being found in the Chittagong Hill tracts, Tipperah, South Sylhet, Lushai Hills, Cachar Naga Hills and Manipur, and the unadministered tracts beyond. Before attempting to describe the people I propose to give a brief history of this dispersion. The term Kuki, like Naga, Shendu, Chin, and many others, is not recognised by the people to whom we apply it, and I cannot give its derivation, but it has come to have a definite meaning, and we understand by it certain closely allied clans, with well-marked common characteristics, belonging to Tibeto-Burman stock. It may be safely said that their ancestors lived for a long time in the strip of country between the Kaladan or Koladyne and the Chindwin rivers, which is almost universally claimed as their place of origin, traditions which are corroborated in several ways.

All these clans practise *jhum* cultivation, that is, they fell a piece of jungle and, when sufficiently dry, burn it and then dibble in the seed, and seldom cultivate the same piece of land for more than two years in succession. They therefore need much room, and the desire for new land, coupled with the fear of stronger clans, has led to the whole race adopting a more or less vagabond mode of life, which has been made fatally easy by the wide-spread growth of the bamboo, which makes house building, of a certain kind, very simple.

Space will not admit of my giving even an outline of the facts on which I base my conclusions, but after protracted inquiries lasting over fifteen years, I have constructed what I believe to be a fairly accurate history of the Lushais, and believe that the ancestors of all these clans originally lived in small consanguineous communities each under a patriarch or headman. In some of these communities individuals by their skill in war and the chase came to the front and attracted members of other families to their hamlets and became the founders of lines of chiefs.

In other cases the communities remained democratic, in fact the whole race is very democratic, and now that fear of their enemies no longer compels them to live in large villages, they show a great tendency to revert to the ancient system of consanguineous hamlets. At the close of the seventeenth century, what is now the northern part of the Lushai Hills and the southern part of Manipur was occupied by the Thado and Vuite clans under powerful chiefs, while to the south the clans still retained their patriarchal organisation. One of these clans was named Lushei and was destined to supply the motive force which drove hordes of savages into British territory in the eighteenth century. All the Lushei chiefs trace their pedigrees back to Thangura, who is said to have been the son of Burman by a Vuite woman. All these clans set much store by their genealogies, and that of the Lushei chiefs is fairly well established. Thangura is said to have had his first village at Tlangkua, north of Falam. From him sprang six lines of chiefs, Rokum, Zadeng, Rivung, Thangluah, Pallian and Sailo, each of whom has risen to importance in the hills. To the north, east and south were well-organised clans, therefore when the Thangur chiefs required more land for their increasing followers, they naturally moved westwards. There is not space to give even an outline of the movement. It was very slow and proceeded on no prearranged plan, each community when it exhausted the land within reach moving to some other suitable spot, each son of a chief as he grew up taking a few households and setting out to seek his fortune. The Rokum have passed away leaving no traces, the Zadeng, Thangluah and Pallian are now only represented by two or three chiefs ruling wretched hamlets which, but for our protection, would ere this have ceased to exist. Rivung chiefs are still found in Tipperah, and it is almost certain that the Kookie men mentioned by the chief of Chittagong in 1777 were followers of the Rivung, for an account of them written by Rennell, of which a French translation published in Leipsic in 1800 is quoted by Colonel Lewin in his book on the Chittagong Hill tracts, might, with but few alterations, be taken for one of the Lushais of the present day. The Sailo family came to the front last; they trace their descent from Sailova, a great grandson of Thangura, and have crushed all their rivals, developing such a talent for governing that they now hold undisputed sway over representatives of all sorts of clans throughout the greater part of the Lushai Hills.

Now what was the result of this intrusion of the Lushais, under the Thangur chiefs, into the territory already occupied by other clans ? A large number of these, probably those most closely allied to the intruders, speedily joined the Thangurs, some no doubt under compulsion, others simply because food was always plentiful and property fairly secure under the rule of these prosperous newcomers. The descendants of these now form the bulk of the subjects of the Thangur chiefs and may collectively be spoken of as Lushais—the term Lushei being used only for the actual Lushei clan.

Some clans known as the Khawtlang and Khawchhak, that is western and eastern villages, refused to join the Thangurs. Their old village sites are still known by their names, and monoliths commemorating their heroes are still pointed out to the curious. The majority of them fled, one party going round the flank of the Thado villages, or passing between them into Cachar, where they were named the Old Kukis, another becoming tributary to certain chiefs of Thado extraction situated on the southern borders of Manipur, where their descendants are still to be found. Nearly all of these clans, however, left a certain number of people behind them who have become merged in the Lushais. By the middle of the nineteenth century the northern Sailo chiefs had become strong enough to try conclusions with the Thados. The Sailos triumphed and hence the second incursion of Kukis into Cachar in 1848. Another wing of the fugitives entered Manipur territory and were settled on the western border by the Political Agent, Colonel McCulloch, a third party flying from the northern Chins after a sojourn in the Kubaw valley appeared on the eastern border of Manipur, and caused much trouble up to quite a recent date. The impetus given by the Lusheis has not even now expended its force, for just before coming on leave I was inquiring into a series of raids committed by several communities under chiefs of the Thado clan, which after many wanderings are penetrating the unadministrated tracts east of the Naga Hills and Manipur and appearing on the Upper Chindwin.

I have now shown how the Old Kukis come to be more closely allied to the Lushais, having originally been their near neighbours, but in Manipur we find several other clans, Chiru, Kom, Kawlhreng, Purum and Tikhup, which have been settled there for a very long time, and the Aimol and Vaiphei, whose advent synchronises with the incursion of the Old Kukis into Cachar. All these are evidently closely allied to the Lushais and Old Kukis. What the disturbing cause was which set these clans in motion, we shall probably never know ; it may have been simply a desire for fresh land, but once commenced such a movement would naturally go on till the clan came in contact with a more stable government, which could protect them from their more powerful neighbours ; this they found in Manipur. All these clans assert that their forefathers lived far away to the south, some claim kinship with clans still found among the Lushais, for instance, the Chiru claim descent from Chongthu, who gave his name to a clan still found among the Lushais, and this same Chongthu figures in the Thado pedigree, which is fairly well established, and by it Chongthu would appear to have flourished about four hundred years ago. The first mention of the Chiru in the Manipur Chronicle is in A.D. 1545, which is rather a curious coincidence.

Every clan is divided into families, some of which are again subdivided into branches. The clan names and many of the family and branch names are clearly eponyms, and though in some cases the name seems to be taken from a village site, inquiry will often show that the site was first named after some famous chief, or community.

The Old Kuki clans are generally democratic, but even among them there are certain posts which are either hereditary or which can only be held by members of certain clans. Among the Khâlhreng, the post of headman is not hereditary, but on election the new headman has to sacrifice a pig; may this not be to avert the ill-luck which is expected to follow a deviation from established custom? Among the Chiru the headman has many of the privileges, though none of the prestige of the Lushai chief. In fact, though these clans are really democratic they have in them the germs of a monarchical system; a Lushai chief before our occupation was an autocrat, from whose orders there was no appeal, but if he exceeded the limits set by custom, or was uniformly cruel and unjust, his followers soon deserted him for more tactful rulers. The chiefs of the Thado clan are reputed to have been more despotic, but nowadays we often find that, though their subjects admit their liability to pay certain dues, they live in small consanguineous hamlets, apart from their chief. A Lushai Chief receives two baskets of rice from each household in his village, and also a hind leg of every animal killed in the chase. He appoints some elderly men, styled Upa, to aid him in administering justice and in the management of the village. All cases are settled by this board, in petty matters a small fine is inflicted and retained by the judges, a custom found to prevent undue leniency. In the case of the theft of certain articles such as rice, cloths, guns, brass pots, domestic animals and wild animals, which have been trapped or snared, there is in nearly every clan a fixed fine, which must be paid irrespective of the value of the article taken. Offences against the body were left to be punished by the sufferer or his relatives, but the delinquent among the Lushais could seek safety by entering the chief's house and becoming his *Boi* or slave. Orphans or destitute people could also join the chief's household, getting food, shelter and protection in return for their labour; these could purchase their freedom by the payment of one *mithan*, that is a tame bison.

The Thado clans recognised slavery by purchase, which is unknown among the Lushais. Captives taken in war are called *Sal*; these were the absolute property of their captor.

In all clans it is customary for boys on attaining puberty to cease sleeping in their parents' houses. Among the Lushais and the Kom, Chiru and Ti-khup in Manipur, there are special barn-like buildings in which the young men sleep, and which are also the guest-houses of the village. Women are generally prohibited from entering these. Among the other clans the usual custom is for a few well-to-do persons to provide in their houses sleeping places for a certain number of young men, who in return assist their hosts and are given by them an annual feast. The Purum have a curious custom, that if a man has a son and a daughter the son must go and sleep in the house of some one who has an unmarried daughter; my informant tells me, "That though they sleep thus they are very careful about their characters." If they are, they are exceptional, for among most of these tribes much freedom is accorded to unmarried girls, as success in the courts of Venus is a sure passport to the Lushai heaven.

The Lushais carried on war by raiding the villages of their enemies; to ambush cultivators was considered unsporting, for as a chief said to me "How can people live if cultivation is impossible?" Head-hunting was never a Lushai pastime; heads of enemies killed in raids were taken, but parties did not go out simply to take a head as among the Thados and Chins. As regards religion, there is a wonderful unanimity of belief in Pathian the creator, who, however, is generally thought to take but little interest in mankind. The Lushais also speak of Khuavang, sometimes as identical with Pathian, sometimes as inferior, but more concerned with men; this deity is probably the Lushai form of Kazang or Kozing, the Chin equivalent of Pathian. Far more important, however, are the spirits of the hills woods and rivers, called by the Lushais *Ram-Huai*, land demons, and *Tui-Huai* water demons, by the Thado-speaking tribes *Tihla* and by others *Rampu*. These are all bad spirits and every misfortune and sickness is due to them, and in appeasing them much of the hillman's time and money is spent.

The Chiru seem to be promoting some of these demons into local divinities. The Thados have two spirits unknown to other clans, *Zomi*, a female ghost, the sight of which is followed by awful misfortunes, unless averted by the immediate sacrifice of a dog, and *Nuaijing mang*, a spirit which lives underground.

Besides these spirits the Lushais believe in the *Lashi*, peculiar beings residing in precipices and controlling wild animals. A Lushai legend tells how a young man out shooting spent the whole day courting a Lashi maiden whom he found weaving at the foot of the precipice, but fortunately retained sufficient control over his feelings to refuse her request to roll up her weaving and follow her into the rock. The maiden, however, bore him no ill will, and at his request summoned an elephant which he shot without difficulty. Among the Vaiphei, Lashi is a one-legged god, almost on a par with Pathian; among the Aimol, he is the tribal god; in both cases the idea of control over the wild animals is preserved and the Vuite sacrificial chant when sacrificing to the domestic god is a prayer for success in the chase. Every clan, except the Ti-khup, who are strict monotheists, believes in a special guardian spirit, to whose sacrifices none but the household must be admitted. The method of performing this sacrifice and the chant used varies in each clan, and the test whether two families belong to the same clan, is whether their customs are identical in these respects. The Lushais call this spirit *Sakhua*, but I have not been able to ascertain what a Lushai's idea of Sakhua is. Perhaps from the following chant used on occasion of the Sakhua sacrifice among the Lushei, it may be possible to arrive at some conclusion. Each line begins with a long drawn out A——h and ends with A——w, and after each is repeated the refrain, "Accept our sacrifice."

Ah——h. Arise from the village. Aw——w.
And accept our sacrifice.
Ah——h. Arise from the open spaces in the village. Aw——w.
And accept our sacrifice.
Ah——h. Arise from your dwelling places. Aw——w.
Ah——h. Arise from the paths. Aw——w.
Ah——h. Arise from the gathering mists. Aw——w.
Ah——h. Arise from the yam plots. Aw——w.
Ah——h. Arise from Bualchuam hill. Aw——w.
Ah——h. Arise from Khåokåok hill. Aw——w.
Ah——h. Arise from Buhmām hill. Aw——w.
Ah——h. Arise from above the road. Aw——w.
Ah——h. Arise from below the road. Aw——w.
Ah——h. Arise from Vahlit hill. Aw——w.
Ah——h. Arise from Muchhip hill. Aw——w.
The spirits of three more hills are invoked.
Ah——h. Arise from the new village site. Aw——w.
Ah——h. Arise from the shelf over the hearth. Aw——w.
Ah——h. Arise from the village. Aw——w.
Ah——h. Arise from the floor. Aw——w.
Ah——h. Arise from the earth. Aw——w.
Ah——h. Spirits prayed to by our ancestors,
Accept our sacrifice.

Bless Luta's spirit (the householder's name).
Bless us with sons, Bless us with daughters,
Bless us while in bed, Bless us while round the hearth.
Make us to flourish like a sago palm,
Make us to flourish like the *hai* tree.
Bless us while the sun shines,
Bless us while the moon shines,
May those above us bless us, may those below bless us,
Guard us from our enemies, Guard us from death,
Favour us with flesh (may we have success in the chase).
Favour us with the produce of the jungle.
For ten, for a hundred years bless us.
Bless us in killing men, Bless us in shooting animals,
Bless us in cultivating our *jhums*, Bless us in cultivating the beans,
Guard us in the presence of men, Guard us in the presence of animals, Bless us in our old age,
Bless us when our heads are bowed down.
Guard us from the spear, Guard us from the *dao*.
Those whom our grandmothers worshipped guard us.
Those whom our grandfathers worshipped guard us.
Bless us in spite of the faults in this our chant.
Bless us in spite of the faults in this our worship.

Bualchuam Hill is the hill in which the first men built their first village; Buhmām, the hill on which the first bird's nest was built by a crow. The other hills mentioned give a clue to the village sites of the first Lushei chiefs. The omission of a prayer to be preserved from the danger of gunshots, shows that the chant has remained unaltered in spite of the gun having superseded the *dao* and the spear. The mention of beans is a survival of the time when the clan lived on them, and left home where rice would not grow.

The Ram-huai are in some way connected with Sakhua, as the following story shows. It is translated from the original Lushai.

"A man called Dailova, who may be alive now, did not know that it was time for him to perform his Sakhua sacrifice. He and his son went down to fetch rice from the *jhum* house, and slept there among the straw; in the night the boy, feeling cold, went into the *jhum* house and slept among the rice, but Dailova covered himself up in the straw and kept warm. Towards morning two Huais came along, one of whom was called Lianthaonga, and the other Ram-huai called to him, 'Where are you going to, Lianthaonga?' and he replied, 'I am going to Lungzawl.' Then Dailova, from under the straw called out, 'Where are you going to, Lianthaonga?' Then the Ram-huai came into the straw and wrestled with Dailova. When they had finished wrestling it was daylight, so they ate their rice and came home and Ram-huai followed them and wrestled with Dailova. Sometimes the Ram-huai appear as a tiger and sometimes as a man. Dailova kept on saying, 'I will wrestle again with him,' and at last he called out 'I have conquered.' Then the Ram-huai told him that his Sakhua sacrifice was overdue and he performed it at once."

The following account of the doings of one of these Huai was given me by Suakhnuna, one of the most intelligent of the Lushei chiefs:—

"A Ram-huai named Chongpuithanga used to live near the ford over the Sonai; he said he was the servant of the king of the Huai, and was always on the look-out for men along the banks of the river. He spoke through a girl called Ziki, who was often ill, and used to go into trances. He demanded a pig and professed to have caused the deaths of ten persons of the village." The following is another story which the teller fully believed:—"About six years ago, Hminga, of Lalbuta's village, was looking at a *ngoi* (fishing weir) and saw some Ram-huai; these wore the *chawndawl* (head-dress worn by slayers of men) and round these were strings of babies' skulls. On his return home he got very ill and all his family kept on asking him what was the matter, but when he was going to tell them the Ram-huai would seize him by the throat so that he could not tell them. If he managed to say a few words he got a pain in his head. He did not die, but recovered." Again: "A woman of Lalbuta's village went out of her house at night for purposes of nature. Her name was Mangpāmi; she was enceinte. The Huai of the Tuitlin precipice caught her, and forced out the immature child and then carried her off down the rocks. The young men of the village went to search for her, and found her naked in the jungle at the foot of the precipice, where the Ram-huai had left her. She knew nothing about it. She recovered."

After a sacrifice those concerned in it are prohibited from working for a certain period and sometimes have to remain within a certain area, either in the village or the house; this period is called in Lushai *hrilh* and closely corresponds to the Naga *genna*. Portions of every animal sacrificed are reserved as offering to the Huai; generally these are the extremities and internal organs, but they vary in different sacrifices. They are called *sherh* in Lushai.

The responsibility for deciding what sacrifice is necessary, rests with the wise-man, called variously *Puithiam,* Great knower, *Thempu* or *Khulpu,* who after feeling the sick person's pulse, announces what class of Huai is troubling him and what particular victim is required. There are sacrifices to meet every possible contingency, *Khal,* which are to appease the Huai frequenting the village and houses. This series is only performed by the Lushais. There are five varieties, three of which should be performed after marriage. The kind of Khal required is sometimes shown by dreams; thus if a person dreams of a beautiful stranger of the opposite sex who laughs constantly, the sacrifice of a piglet, *Vawkte-Khal,* is needed; should the dream be repeated, *Ar-Khal,* sacrifice of a fowl, must follow; should a person dream that a tiger bites him, *Kel-Khal,* sacrifice of a goat, must be performed at once or death will ensue.

Dai-bawl, these are to appease the Huai of the jungle and rivers. They are performed by all the clans in very similar ways. The following is a specimen; it is called *Bawl-pui,* or great bawl, and is only performed when others have been performed in vain.

Two small clay figures are made, one to represent a man and the other a woman. These are called *Ram-chaom.* The female figure has a petticoat of *Hnahtial* (a plant which has tough leaves used for wrapping up food to be taken on a journey), and is made to bite the pig's liver.

The male figure is provided with a pipe and a necklace of the liver of the pig which is sacrificed. A small bamboo platform is made, and on it is put a clay model of a gong and other household utensils and sometimes of *mithan.*

The pig's throat is cut and the blood allowed to flow over the platform, etc.

The pig's flesh is cooked on the spot. To take it into the house would bring misfortune. Many persons come and eat it with the Puithiam. If the patient does not die during the performance of the sacrifice or during the subsequent feast he will undoubtedly recover.

An important sacrifice, the knowledge of the charms for which is restricted to members of certain Old Kuki clans, who travel about in search of patients, is called the *Kangpuizam,* and the fee for performing it is about £3.

In front of the house a sort of arbour is made of grass and boughs supported on four sticks; all round this are hung little balls made of split cane rolled up tight. This split cane is said to be much liked by the devils. All round the house strands of cane are stretched, the ends being tied to the arbour. The devils are supposed to be unable to pass these canes, but travel along them so that the sorcerer has no fear of the devils who are already inside the house being assisted by recruits from the outside. Drinking of beer and reciting of charms goes on during the day, and after dark the sorcerer and his assistants get up on the roof of the sick man's house and commence marching up and down reciting charms and ordering the devils to leave the man, and offering them asylum in the bodies of a goat, pig, and dog which they carry with them. After some shouting and firing of a gun the party sit down on the roof over the front entrance to the house, and the sorcerer commences a long incantation over each of the animals in turn, beating them and stamping on them. Then some of the party come down and the rest retire to the back of the house and each of the animals is brought in turn from the far end of the house, being made to walk on its hind legs to the front and then is thrown down on to the entrance platform; lastly, a big bough is carried from the back of the house, along the roof and fixed through the roof over the entrance. From this bough a cane is stretched to the arbour. Then all the rest of the party came down and after many incantations and much shouting the animals are sacrificed and eaten by the sorcerer and his assistants, the usual useless portions being hung up in the arbour, for the devils, who are supposed to have been driven either into the animal or along the cane into the arbour.

I have not space to describe the sacrifices to cure barrenness, or the *Naohri,* a series that should be performed once in every person's life in a particular order, or the sacrifices connected with cultivation or those connected with hunting, but must return to general religious beliefs. Besides the spirits already mentioned there are the *Mi-vengtu,* watchers of men, two spirits, one good, constantly guarding each person from harm, and the other bad, ever seeking opportunity to sell him to the Huai. Every person is supposed to have two souls, a wise and a foolish soul, and the struggles between these two account for the unreliability of men. If a man stumbles his wise soul has slumbered and his foolish one has triumphed. The belief in Mi-thi-khua, the dead-men's village, is universal, but that in Pial-ral, beyond the Pial River, an abode of unlimited food and drink and no worry, is not found among the Thado and many of the Old Kuki clans. Every clan believes in some being or beings which guard the road to Mi-thi-khua and trouble the spirits of the departed. Mi-thi-khua is generally said to be a place like this world, only existence there is more troublesome. The following is the Lushai belief.

The first man is said to have been Pupaola, then he died before all those born after him, and shoots at those who have died after him with a very big pellet bow; but at some he cannot shoot; *Hlamzuih* he cannot shoot at, *Thangchhua* he may not shoot at. Then he may not shoot at a young man who has enjoyed three virgins, nor at one who has enjoyed seven different young women even if they were not virgins; but women, whoever they may be, he always shoots at.

They say that there is a road between the Mi-thi-khua and the Rih Lake. To go there, they say, there are seven roads, but Pupaola has built his house where the seven roads meet. Then after Pupaola has shot them there is a hill called Hringlang Hill, and then there is the Lunglo River (heartless, feelingless, which removes feelings), the water of which is clear and transparent, and the *hawilopar* (look-back-no-more flowers) flourish there. The dead pluck *hawilo* flowers and place them behind their ears and drink of the Lunglo water and have no more desire for the land of the living.

Some clans believe that the souls of the dead are reincarnated in the form of hornets, some say in the form of dew, which if it falls on a person is reborn in his or her child. Hlamzuih, whom Pupaola may not shoot, are the souls of firstborn children who die within a year of their birth. The proud title of Thangchhuah, which carries with it much honour in this world as well as the right to admission to Pial-ral after death, can only be obtained by killing a man and each of the following animals:—elephant, bear, *sambhur*, barking deer, wild boar, wild *metna*, and by giving the feasts enumerated below; but it is well also to have killed a species of snake called *rulngan*, a bird called *vahluk* and a species of eagle called *mu-van-lai* (hawk in the middle of the sky). A Lushai gave me the following account of the journey of Thangchhuah to Pial-ral.

"After death the dead man holds the horns of the *sambhur* while sitting on its head, the *rulngan* will wind itself round him and the horns, the *Mu-van-lai* will try to seize the *rulngan*, but the Thangchhuah can drive them off. That is why they always fly screaming so high in the sky. The *vahluk* shades him by flying above him and also hide him from Pupawla, and thus the Thangchhuah is carried to Pial-ral."

After a death some animal must be sacrificed, apparently as a peace offering to the Huai, otherwise the soul of the departed cannot go to Mi-thi-khua. This idea has led to the custom known as *Ai*. If a man kills an enemy or a wild animal, and does not perform the *Ai* ceremony, the ghost of the dead man or beast will haunt him and he will go mad, if he performs the *Ai* he will own the soul of the deceased man or beast in the other world. The *Ai* of a man requires the sacrifice of a *mithan* and a small pig. The *Ai* of a tiger is an interesting ceremony. The following description was written for me by a Lushai.

Thangbånga shot a tiger and performed the *Ai* ceremony. The night before he must not sleep. A young man cut its tail off, he also must keep awake all night. The next day he performed the *Ai* ceremony, sacrificing a *mithan*. Thangbånga, who was performing the *Ai*, dressed himself up as a woman, smoked a woman's pipe, wore a woman's petticoat and cloth, carried a small basket, span a cotton spindle, wore ivory earrings, let his hair down and wrapped a mottled cloth, which was said to be of an ancient pattern, round his head as a turban. A crowd watched him and yelled with laughter, but it would have been unlucky for him to laugh. Presently he took off his turban and carried it in the basket. Then he took off his woman's disguise and dressed again as a man and strapped on a fighting *dao* and carried a gun. He also took *sailungvār* (white flints) and put them into the tiger's mouth, while he ate eggs. " You eat the *sailungvar*," he said ; " who will swallow them the quicker ? I have outswallowed you, you have not swallowed yours. I have swallowed mine. You go by the lower road, I will go by the upper. You will be like the lower southern hill, I shall be like the high northern ones. You are the brave man of the south, I am the brave man of the north," he said, and cut the tiger's head three times with his *dao*. Then the men buried the body of the tiger outside the village. If the tiger has killed men its eyes are gouged out with skewers or needles and thrown away. It is unlucky for the performer to laugh, so he holds a porcupine in his arms ; if he laughs by accident they say, " The porcupine laughed." The idea of the performer disguising himself as a woman is that the spirit of the dead tiger may be humbled, thinking that it has been shot by a woman.

Marriage among nearly all the clans, with the exception of those belonging to the Lushai confederacy, is endogamous, as regards the clan, but exogamous as regards the family. When the method of formation of the Lushai confederacy under the Thangur chiefs is considered, it will be seen at once that any restrictions on marriage would seriously have interfered with the fusion of clans which was so necessary for the establishment of their power ; therefore we find among the Lushais and clans much under their influence that a man may marry any woman, except his sisters, mother and grandmother; maternal first cousins marry freely, but there is a certain prejudice against paternal first cousins marrying. Among some clans marriage is not strictly endogamous, being allowed with members of some other closely allied clan ; among the Chiru and Chawte, another old Kuki clan, the particular family of the clan out of which a young man must choose his bride is decreed by custom, and any young couples that transgress this rule are refused admittance to the family meals.

Marriage in all cases is by purchase. Among the Lushais not only the nearest male relative of the bride but also her aunt, her elder sister, her maternal uncle, a special chosen male and female guardian, all have to be paid certain sums, and traces of this custom are found among many other clans. Should a wife be led astray the Lushai custom decrees that all these various sums are to be repaid to the husband, the co-respondent getting off scot free; among other clans the co-respondent compensates the husband and takes the lady. The former system is found in practice to be more conducive to morality, as under it a woman feels that her fault will bring shame and loss on her relatives and friends, whereas under the latter she becomes a mere chattel, and a husband is often a consenting party.

In nearly all clans the marriage ceremony involves the sacrifice of a cock by the Puithiam, and the binding of the feathers on the young couple. Survivals of marriage by capture are also common, the bridal party being pelted with mud as they go to the bridegroom's house.

After the birth of a child, it is generally the custom that the mother must not leave the house for some days, and among the Lushais neither parent must work for seven days lest the soul of the child, which is supposed to be hovering around them should be hurt. Among other clans a ceremony called the summoning of the soul is performed within a few days of the birth. On these occasions a fowl is generally sacrificed. The naming of the infant is also usually the occasion for killing a fowl. The name is usually chosen by the maternal uncle, but sometimes omens are consulted. The Chawte drop three grains of rice into a cup of water and if they sink another name must be chosen.

I know of no ceremonies connected with attaining the age of puberty. The ceremonies connected with death and disposal of the dead are various and yet a family resemblance is traceable in them all. Immediately a Rangte has breathed his last all present seize weapons and slash the walls, floor, and roof of the house shouting, "You have killed him, whoever you may be we will cut you in pieces." A party of young men goes off into the jungle and returns with whatever birds and beasts they can kill, which are hung up over the grave.

As a rule Old Kuki clans bury their dead in special cemeteries outside the village, while the others make the grave as near the house as possible. The corpse of a chief, among the Lushais, is enclosed in a hollowed-out log and kept in his house for three months, with a fire burning beside it and his widow is expected to quit it as little as possible. A bamboo tube leads from the inside of the coffin through the floor into the ground, all other openings being plastered up with mud. When nothing but the bones remain, the skull and some of the larger bones are placed in a special basket and kept as long as possible, the remainder being buried. Similar customs are found among several other clans, the coffin generally being placed in a specially prepared house at some distance from the dwelling house. Some clans carry the corpses of chiefs and famous men round the village; the corpse of a Thado chief is carried in and out of his house seven times. The Vuite dry the corpse in some way and keep up the funeral ceremonies for months, drinking round the corpse and pouring *zu* down its throat. Food, drink, and personal requisites are generally buried with the corpse. In some clans after the interment is completed, the Thempu places a stick in the path a short way from the graveyard and conjures the spirit of the departed not to pass it. In many clans there is an annual feast in honour of those who have died within the year.

The Khawlhreng on this occasion exhume the bones, clean them and replace them after wrapping them in cloths. Every clan places offerings of food and drink over the grave, and kills some animal in honour of the deceased and as a ransom for his soul. Offerings of the first fruits are made to their forefathers by almost every clan.

There are a great variety of festivals, some annual and connected with the crops, others performed for the glorification of the giver of the feast and to ensure his soul obtaining admission into the realms of bliss. Among the Lushais these have been very much systematised. An aspirant for the honour of Thangchhuah must give five feasts in a specified order, the most interesting of which is the *Mi-thi-rawp-lām*, dance of the drying of the corpse.

Three months before the date fixed for the feast, all the young men and girls of the village start cutting firewood, for cooking the flesh of the animal to be killed. A cane is stretched along from tree to tree beside one of the main approaches to the village for some 500 yards, and against this, on alternate sides, are rested the billets, so that they be thoroughly dry by the time they are needed. As a reward the young people receive a he-goat and a sow which they consume with much merry-making, the skulls being placed on posts at each end of the line of billets. The actual feast lasts four days. On the principal day, besides the slaying and eating of a *mithan*, effigies supposed to represent their deceased relatives are made and attired in the finest cloths and adorned with the best necklaces. These are strapped on a square bamboo frame-work in the centre of which, on a tall pole, is an effigy supposed to represent the progenitor of the clan. The oldest living member of the clan then comes slowly from his house bringing with him a gourd of *zu*, and gives each effigy in turn a little *zu*, muttering a charm as he does so; he arranges his tour so as to reach his own father's effigy last, and when he has muttered his charm and given it the *zu*, he dashes the gourd down on the ground, and, bursting into tears, rushes into his house, whence he must not emerge for a month.

The effigies are then carried about the village by elderly persons, with much shouting and merriment. This is supposed to please the spirits of the departed.

Nearly every clan, while denying that its members have any knowledge of witchcraft, is firmly persuaded that its neighbours practice the black arts.

There are several ways of bewitching your enemy. Colonel Lewin has a tale in which the wizard takes up the impression of a person's foot in the mud and puts it to dry over the hearth, thereby causing the owner to waste away. Clay figures, into which bamboo spikes are thrust, also figure in all cases in which a person is accused of this offence. To cut off a piece of a person's hair and put it in a spring, is certain, unless the hair is speedily removed, to cause his death.

The following translation of a Lushai's account of how mankind first learned the black art is interesting.

"*Dawi* (witchcraft) was known to Pathian. Vahrika also was something like Pathian. Vahrika had a separate water supply and Pathian's daughter was always disturbing it. Vahrika said, 'What can it be?' and lay in ambush. Pathian's daughter came and he caught her and was going to kill her, but she said, 'Don't kill me, I will teach you magic.' So she taught him, and Vahrika taught it all to Keichalla, Lalruanga and Hrang-sai-puia. Then Lalruanga went to court Zangkaki, and Zangkaki, who was a friend of Pathian's daughter, bewitched Lalruanga, who had forgotten his *Dawi bur* (magic gourd), and he said to Chaichim (the mouse), 'Go and fetch my Dawi bur which I put in my basket.' So the mouse went to fetch the Dawi bur and got it, but the Tuiruang (Barak) river rose very high. The mouse took the Dawi bur in his mouth and started to swim over the river. The Dawi bur was washed away by the river till it stuck in the fish trap of the Thlangom tribe, who said, 'What is this?' The Dawi bur was singing like anything. The Thlangoms broke it open. No sooner had they opened it than they each acquired knowledge of music. Then the Thlangoms were chanting the magic song. Some Mizo natives of these hills, who were passing through the village, also heard the song of those who knew magic. The Mizo saw a man eating rice, 'May you be bewitched,' they said. They bewitched him in his rice eating, and for a year after, whenever he ate cooked rice, it changed into dry uncooked rice, and it swelled inside him till his stomach could not hold it and he died. Thus the Mizo learnt about magic. Now-a-days also there is magic, but those who know it won't teach it without payment."

The only cure I know for a bewitched person is to eat the liver of the person who has bewitched him.

The Lushais believe that certain persons, both males and females, but more generally females, have the power of putting themselves into a trance and are in a state of communication with Khuavang. This power is called *zawl* and persons who possess it are called *Zawlnei.* The method of interrogating a Zawlnei is called Thumvor, and is as follows:—

The Zawlnei being in a trance is given a shallow basket containing rice which he or she holds in one hand while an egg is placed in the palm of the other hand. When the Zwalnei reverses this hand, the egg does not fall. The basket of rice is shaken backwards and forwards, and there appears among the rice the footprint of the animal which it is necessary to sacrifice to ensure the patient's recovery.

The belief in a species of demoniacal possession is very common. Among the Lushais it is called *Khawhring*, and the belief is that Khawhring lives in certain women, whence it issues forth from time to time and takes possession of other women, who falling into a trance speak with the voice of the original hostess of the Khawhring. The following is a translation of a Lushais' account of the origin of Khawhring.

"Wild boars have Khawhring. Once a man shot a wild boar while out hunting. On his return home they cooked the flesh, some of the fat got on to the hand of his sister, who rubbed her head and the wild boar's Khawhring just passed into her. On the next day without any provocation she entered another girl. She took entire possession of her. People said to her, 'Where are you going to?' She replied, 'It is the wild boar my brother shot.' 'Well, what do you want?" they said 'If you will give me eggs I will go away," she replied. They gave her eggs and she went. Presently all those who borrowed the *hnam* (a plaited cane band for carrying loads) of the girl with the Khawhring also got possessed. If one with a Khawhring has a daughter, the child is always possessed, so no one wants to marry a person with a Khawhring. Those possessed of Khawhring are most disgusting people, and before the foreigners came they were always killed."

The folk tales of these clans are very numerous; they have a legend of the king of the Tui-Huai or water-demons falling in love with a girl and pursuing her and thus causing a flood; of the sun being swallowed by a mythical being called an *awk*, which caused general darkness and the death of many human beings, the remainder being changed into animals, after which the world was repeopled out of a hole in the ground. My Lushai friend tells me: "The place whence all people sprang is called Chhinglung. All the clans came out of that place. Then two Ralte came out together and began at once chattering, and this made Pathian think there were too many men and so he shut down the stone. After a short time Thlandropa was going to hold a feast, and told them to call together all the people of the world, and when this had been done he held his feast. They said to the sun, 'Do not shine, because we want our leader the Sa-huai (Loris) to lead us in the dance,' and the sun said, 'All right.' At that time the Sa-huai and all the animals could talk. The bamboo rat beat the drum and they all danced, and in the middle of their fun the sun said, 'Oh, how I do want to look!' and shone out, and all the animals got hot and could not dance any more, so the Sa-huai got angry and quarrelled with the sun and won't even look at it nowadays. There was a great feast of flesh, but Buka the old owl got no meat, so he got angry and went and sat on the bough of a tree, and Zuhrei, the big rat, chaffed him and said, 'Buka has eaten his fill.' Then the owl, being still hungry, got angry and bit Zuhrei. Since that day they have been at war, and if the owl sees Zuhrei he bites him without fail." The point of the allusion to the Ralte is that this clan is famed throughout the hills for the loquacity of its members.

Among the Old Kuki clans in Manipur eclipses are generally ascribed to the sun and the moon being either caught by, or hiding from, Pathian's dog, which was set on to them, because they stole his master's tobacco, or scattered his rice. Lightning is Pathian's axe which he hurls at the lizard which shouts defiance at him from the top of a high tree. The Lushais say that Thlandropa, who gave the feast, married Khuavang's daughter, and gave his gun as her price and the reports of this weapon are what we call thunder. I will conclude with a tale which might almost have come from Uncle Remus's collection.

The tale of Grand-Daddy Bear and the Monkey.

The monkey made a swing and was always swinging in it. One day grand-daddy bear saw him and said, "Oh, monkey, let me have a swing?" The monkey replied, "Wait a minute till I have hung it more securely." Then he climbed up and bit the cane nearly through and jumped down again crying out, "Come on grand-daddy bear, have a swing." The bear got in and began to swing; the cane broke and he fell down. The monkey, intending to eat him, had gone and fetched some cooked rice (to eat with the bear's flesh). But though grand-daddy bear fell down he was not killed. The monkey being terribly afraid said, "Oh, grand-daddy bear, hearing you had fallen I brought some rice for you," and gave him all he had brought.

NOTES ON SOME TIBETAN AND BHUTIA AMULETS AND FOLK-MEDICINES, AND A FEW NEPALESE AMULETS.

BY W. L. HILDBURGH, M.A., Ph.D.

[WITH PLATES XXXVI–XXXVIII.]

WHILE in Darjeeling in the early part of 1907 I had the opportunity of collecting, through natives with whom I had become acquainted, and who had similarly assisted me during previous visits, the principal part of the information here presented. Darjeeling, lying near to the borders of Tibet, Bhatan, Sikkim, and Nepal, and on a great trade route between those countries and India, has a population composed very largely of non-Indian elements; there is, indeed, a small suburb, below the European town, occupied almost entirely by Tibetans, Bhutias, a mixed stock, and Lepchas, and having a small Lāmaist temple for their use, while in the neighbouring district there are several other temples. On the market days considerable numbers of Bhutias and Tibetans attend the markets, both as buyers and sellers, whilst at these, as well as at other times, pilgrims and itinerant Lāmas also visit the town. From these people I obtained, personally in most cases, and through a Tibetan-Bhutia interpreter in the others, the objects and the accompanying information to which I shall refer.

The amulets in use by these people may, for convenience, be classified in origin as religious, secular, and natural. In the first class we have the amulets by whose aid the gods or demons are constrained to exercise their powers for the benefit of the users of the amulets, or at least to refrain from injuring them, or objects which, through association with sacred things or places, have acquired a certain measure of protective virtue. In the second class we have amulets which have been formed artificially, and which produce their effects by virtue of their shape or their material, and without the immediate intercession of supernatural beings. And in the third class we have amulets formed of natural substances which by their intrinsic virtues, howsoever these may be based, are protective or curative. It is evidently not possible always properly to place an amulet in one of these classes, nor can we always say, from the scanty evidence at hand, to which class the object belongs.

RELIGIOUS AMULETS.

Like the Japanese and the Chinese, to whose forms of Buddhism his own is very closely allied, the Tibetan makes great use of printed charms. These charms are printed from wooden blocks upon, generally, a toughish native paper, or upon a more or less flimsy cotton cloth, and are carried upon the person, or pasted upon the doors or walls of houses, or hung, to flutter in the wind, from bushes, or poles, or strings stretched from point to point.[1] They often bear pictures of deities, demons, or sacred objects or animals, or of objects connected sympathetically with their intended purposes. The formulæ upon these chatms are generally in Tibetan or Sanskrit; sometimes a Sanskrit formula is used with a transliteration into Tibetan beneath it, and sometimes only the transliteration, perhaps very crudely done, is given. (See Plates XXXVII and XXXVIII.)

These printed charms seem to be available for almost every one, if not for all, of the purposes to which amulets may be applied, and some of them may serve, in addition, as instruments in magical ceremonies. They are used for protection against demons in general, for protection against particular demons of certain quarters or of certain diseases, for protection against the evils that may befall travellers, or against particular mischances, for the attainment of success or good fortune, for the spiritual improvement of their users, and for all manner of other purposes.

Many of the printed charms have sympathetic relations with their intended purposes: thus, for example, a charm against ghosts may bear a picture of a ghost in fetters; one against dog-bite may bear a chained dog; or one to obtain greatness may have an elephant upon it. One of the most curious of these sympathetic relations appears in the explanation, as given me, of a charm bearing, amongst various other symbols, the Zodiacal animals, by whose means the cycle for measuring time is formed. This charm was to be placed upon the door of a house in order to protect all the people of the house, and it was explained to me that they were all mentioned individually upon the charm, by implication, since the age of each was written upon the charm (Plate XXXVII, Fig. 1).

As example of their use as instruments in magical ceremonies may be taken the waving about in the air of a traveller's charm when the traveller is about to cross a river, and its exhibition to the devils of the vicinity; the showing of a charm to the devils in the four directions when a hailstorm occurs in order to cause the storm to depart; and the apparent transference of a disease to a charm placed with rice, the summoning of the devils to the food, with the subsequent throwing away or destruction of the charm.

The paper charms which are to be carried are generally either folded into small squarish packets, which are bound round with coloured threads, or they are placed, often with numerous other objects, in the metal amulet cases commonly carried. The papers bound with threads have these latter arranged neatly in designs: thus, upon three which I obtained together from a Lāma from one of the monasteries at Lhāsa, the threads form on one side a cross and on the other a diamond-shape (Plate XXXVI, Fig. 1); on one of these the threads were green and yellow, on the second, green, red, and white, and on the third, black, red, and yellow. Sometimes the threads are arranged in a design like that shown in Plate XXXVI, Fig. 2, based on a square. I was not able to find that the threads had any protective virtues assigned to them based upon the principle of confusion found both in Europe and the Orient, nor that the colours had any significance beyond the usual one of the Buddhist "Five Colours." Small cloth bags just large enough to contain them are often used to protect the charms thus prepared, and occasionally a charm without the thread binding is carried in the same manner.

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[1] See Waddell's *Buddhism of Tibet*, London, 1895, for descriptions and illustrations of various charms of these kinds. Also, *Lhasa and its Mysteries*, by the same author, pp. 85, 86, 87, 173, 174, 175, 268. Also E. Schlagintweit, *Buddhism in Tibet*, London, 1863, both descriptive volume and atlas of plates.

The charm-boxes, used sometimes to contain the printed charms, are of metal—brass, copper, silver, or the alloy called "Tibetan silver," or gold—often decorated with turquoises, according to the means and fancy of their owners. Some of them are worn as ornaments hung from necklaces upon the breast, others are carried within the clothing. Most of these boxes have the front and back parallel, and are in outline circular or elliptical, or in the form of a pointed arch, or of a square with, sometimes, a triangular projection extending from each edge; others are bean-shaped.[1] Upon the fronts of some of these boxes a mystic character or monogram may be engraved. Others of the boxes, usually the circular or arched ones, have a small glass window in front, through which a small figure impressed upon a tablet, or a picture or other image appears.

These boxes are used to contain many other things in addition to the printed charms; the usual nature of their contents is illustrated by the following examples. The descriptions of the objects are as given me by the persons (the wearers in most cases) from whom I obtained the boxes. I may add, as a word of caution, that some of the native "curio" merchants at Darjeeling are not at all above filling up charm-boxes which they may happen to have for sale, since they find that the unsuspecting globe-trotter prefers what he considers to be the "complete" charm; the things used for filling are generally of a sacred or magical or medicinal nature, but they are brought together haphazard by the seller.

A brass charm-box, in shape like an Indian pointed arch, 5 inches by 3½ inches, worn by a Lepcha. Contents: a coloured image of a Buddha; a dried flower of the deity represented by the image, some dust from the monastery on the Potala Hill at Lhāsa; a paper charm, printed at Shigatse, against sickness, and bearing, amongst other things, the picture of a chained demon; some stones for application to wounds to stop bleeding; and several folded papers containing medicines or charms whose natures and purposes the wearer did not at the moment remember or could not describe.

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[1] See Waddell's *Buddhism of Tibet*, pp. 571, 572, for illustrations of some of these forms and the method of wearing them. See also Schlagintweit, *Buddhism in Tibet*, pp. 175, 176, for descriptions of some boxes and their contents; the pointed form is there said to represent a fig leaf. Illustrations of charm boxes are to be found in many books dealing with travel amongst the Tibetans.

A copper charm-box, in shape like an Indian pointed arch, 2¾ inches by 2⅛ inches, worn by a Bhutia Lāma. Contents: a coloured tablet impressed with a figure of Tamdin; a cowry shell for serving the image while worshipping it; a piece of brass marked with an emblem, a four-petalled flower; several grains of a cereal from Lhāsa (said to be protective because of their place of origin); a small piece of brocade (probably part of one of the ceremonial scarves from an idol); a quartz crystal for rubbing beneath the eyes for the cure of eye troubles; a bean, to be eaten for the cure of stomach trouble; and a written paper, probably a charm.

A silver charm-box, circular, 1½ inches in diameter, worn by a woman on a cord carrying also a nine-marked silver disc. Contents (according to a Bhutia man): a cake of earth impressed with the seal of the Grand Tashi Lāma, as given to pilgrims (see *Buddhism of Tibet,* p. 304), which is to be eaten, a little at a time, for the cure of sicknesses; a paper, apparently in Sanskrit and probably referring to the cake of earth; a painted picture, said to have been inserted merely to fill up vacant space; and a peacock feather, said (although in error, I believe) to be merely for improving the appearance of the charm, and not with any protective intention.

A brass charm-box, circular, 1½ inches in diameter, ornamented upon the face with an elaborate scroll design, obtained from a Lāma. Contents: a copper image of a deity, in repoussé; a red stone, from a Lhāsa monastery, to bring good luck; several grains of a cereal, from Lhāsa, and consequently of benefit if carried or eaten; a stamped cake of dust from a temple at Lhāsa, to be eaten by a man when near death, to cause him to go to "the gods' country" instead of to "the devils' country"; three seeds, to be used like the cake of dust; and a piece of paper, said to bear "the signatures of three monasteries" (my interpreter could not confirm the statement concerning this paper).

The part that relics take in all these and similar charms is noteworthy. Not only are things brought from Lhāsa credited with occult virtue because of their association with that holy city, but dust from temples, scrapings from sacred rocks, leaves of sacred trees, the coverings of idols, bits of the robes of re-incarnated Lāmas and other holy men, and even the nail parings and bodily refuse of the Grand Lāma, are similarly honoured.

There is an amuletic ornament worn quite commonly by the Bhutia and Tibetan women, and sometimes by children, near Darjeeling, consisting of a disc of metal bearing a number of dot-and-circle markings. This ornament, generally of silver, copper, bronze, or brass, the metal being apparently without significance, is worn usually suspended from the hair. In the form more common amongst the women who live at, or who come to, Darjeeling, the disc, generally of silver or copper, bears nine dot-and-circle markings, arranged in three groups of three each, above which are two emblems representing the sun and the moon (Plate XXXVI, Figs. 3 and 4). I was told by an informant, upon whom I could generally rely, that the purpose of this amulet was the avoidance of a certain sickness, apparently epilepsy,[1] and that it was prepared as follows:—A blank is formed in advance, and during an eclipse of the sun by the moon this blank is struck, by the person by whom the amulet is to be worn, three times with an iron hammer, whilst a formula equivalent to "God, come here!" is recited, and finally the blank is taken to a silversmith, who engraves the designs upon it. My informant did not know the meaning of the dot-and-circle markings. According to various bits of information collected from several sources during a previous visit, but which my present informant stated to be incorrect, this amulet is worn to secure good luck in general; the nine dot-and-circle markings are connected in some way with the Nine Planets, and after nine years of wear the efficacy of the amulet departs and it is thrown away or destroyed.[2]

Of the women visiting Darjeeling, some, said to be from Walloong, near the border of Nepal, wear a different form of what appears to be the same amulet. In this the disc, generally considerably larger than in the form just described, is of brass or bronze, and bears only a considerable number of dot-and-circle markings, without the sun and moon emblems. Upon one of those, which I obtained there, are thirty-eight dot-and-circle markings (one of them, apparently, imperfect, its circle being absent); upon another there are thirty-seven dot-and-circle markings (Plate XXXVI, Fig. 5); and upon a third eighteen dot-and-double-circle markings (Plate XXXVI, Fig. 6). Each of these specimens is held by a leather thong, on which, one on each side of the disc, are two long brass spirals. According to the informant previously referred to, these ornaments are for the same purpose as, and are made in like manner to, the form described above.

Amongst natural substances used as amulets are chank-shell and parts of the elephant, the assumed preservative virtues of which are, I think, in part associated with Buddhist conceptions.[3]

I obtained four small pictures, painted upon linen, of Garudas, yellow, blue, green, and red, representing the four quarters, which, I was told, were to be fastened upon the walls of a house in order to preserve the inmates from a certain sickness, apparently a kind of cancer or leprosy; in connection with their employment in this manner Garuda was to be worshipped by the people of the house.

SECULAR AMULETS.

The amulets to be included in this section are those in which the intercession of supernatural beings is not immediately concerned, and which do not act by virtue of properties inherent in the materials of which they are composed. The amulets described below appear to be of this nature, although further information concerning them may show them to belong rather to one of the other classes.

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[1] This informant had himself suffered for a time from this sickness, but was cured of it by being placed upon a diet of rice and milk, without vegetables of any other kind, or meat, for a long period, during which he worshipped the two devils (one of "fire," one of "water"), who produce the illness, and appealed to them to trouble him no longer.

[2] *Cf.* "Notes on Sinhalese Magic," "Pañcháyuda," *Journ. Roy. Anthrop. Inst.*, vol. xxxviii, p. 195.

[3] *Ibid.*, pp. 197, 198.

The charm shown in Plate XXXVI, Fig. 7, is intended to be carried as a protection against lightning. It consists of two metal pieces held together by a leather thong, composed, it was said, of an alloy containing the "Five Metals,"[1] and for that reason protective. Another charm against lightning, which was shown to me, may have been of the same, or of a similar material; this charm had, roughly, the form of a man with one arm upraised, and its virtue was said to be due to its having been made of a piece of a thunderbolt.[2]

Against strains in the arms, arising from the bearing of heavy loads, and as a cure for sore arms, many of the native women porters wear bangles formed of wires of several different metals twisted together (Plate XXXVI, Fig. 8). Bangles of this kind are very often tipped with conventionalised dragons' heads. Two typical bangles are formed respectively of wires of copper, iron, and silver, and of wires of copper, brass, and (Tibetan) silver.

A comprehensive Bhutia charm, to be placed in a house for the benefit of the inmates, is a small painted picture showing an elephant, upon which sits a white hare, upon whose back stands a monkey taking a fruit from a bird upon a tree. On this sympathetic charm the animals are shown in order to secure respectively the following results: the elephant, that the people may become great; the hare, that they may become clever; the monkey, to protect them from demons; and the bird, in order that they may have plenty of food, "because the bird gets plenty of good fruit."

The charm shown in Plate XXXVI, Fig. 10, is formed of cords plaited together, and was reported as being worn by Lāmas against the attacks of demons. If this information, which was all that could be obtained concerning it, be correct, the specimen probably belongs either to the widespread class of charms in which evil intentions are thwarted by the interposition of something requiring numeration or disentanglement, or to that in which magical virtues are imparted to an object and held by knots.

NATURAL AMULETS.

Although both the vegetable and mineral kingdoms are represented amongst the ntaural amulets which I met with, the majority of those amulets are of animal origin. Some of the natural amulets used curatively act by virtue of their effects upon the supernatural agencies causing diseases, while others appear as though they should be regarded merely as medicinal substances believed to have a definite effect upon certain organs, but merely carried instead of being taken internally. Most of the specimens to be described were obtained from the medicine-sellers, women, of whom there are usually several at the weekly market at Darjeeling, and the descriptions of the objects and their properties are as given by these women, supplemented, occasionally, by remarks of my interpreter, to whom many of the objects were familiar.[1]

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[1] Probably gold, silver, copper, brass and iron; see *Buddhism of Tibet*, p. 426, note 3. *Cf.* also "Notes on Sinhalese Magic," *Journ. Roy. Anthrop. Inst.*, vol. xxxviii, p. 196.

[2] According to the explanation given me an actual thunderbolt or meteorite had served, but it seems to me more probable that the real source of the material was some thunderbolt-shaped ceremonial object, such as a dorje. In a charm box, whose contents were described by Schlagintweit (*op. cit.*, p. 176), there was a piece of copper shaped to represent a thunderbolt, and kept wrapped in red cloth, which was said to be a charm against lightning.

Any of the following objects may be carried, for the purpose of protecting their bearers from the attacks of malignant devils:—A foot or a skull of a marmot (*Arctomys caudatus*); a piece of the foot of a badger (*Meles leucura*); a joint of a snake's backbone; the claws of various animals; the teeth of various animals; a tiger's whiskers (Plate XXXVI, Figs. 11 and 12), either with or without the skin.

In addition to these objects there are the following:—A piece of tiger's jaw (Plate XXXVI, Fig. 13) for a child, as a protection from devils; the foot of a certain kind of black wild cat, wrapped in cloth, as a protection from devils of all kinds; the horns and part of the skull of a kind of stag, brought from Sikkim, to be fastened to a door, in order to keep devils from entering the house thus protected.

A monkey's paw (Plate XXXVI, Fig. 14) is carried as a protection from a certain demon (? *Devalarkia*) who causes a terrible sickness affecting the entire body.

A piece of the knee-cap, or of a bone of the frame, of an Indian wild dog (*Cuon primaevus*) is, carried, a protection from all kinds of sicknesses; rubbed into water, which is afterwards drunk by the patient, it cures all kinds of sicknesses.

A section of the male organ of a bear, or of a rhinoceros, tied upon the abdomen, cures affections of the testicles.

A boar's tusk, I was told by a Tibetan Lāma who carried one amongst his valuables, is a protection against all kinds of sicknesses; a medicine-seller from whom I bought two knew of no amuletic properties ascribed to them, but said that boars' tusks were used in magic.

The elephant, probably partly on account of his strength and power and partly because of the Buddhist beliefs associated with him, furnishes amulets both in his ivory and in the hairs from the tip of his tail.[2] The tail-hairs, which are similarly used in both Burma[3] and Ceylon, are set in gold or silver finger rings, and are carried in order to bring good luck, the elephant being "a fortunate animal." In the silver ring shown in Plate XXXVI, Fig. 9, two hairs are set in grooves of the outside, and there are, in addition, a bit of red coral and two turquoises which are probably amuletic.[4]

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[1] The scientific names of the animals are taken from Sandberg's *Tibet and the Tibetans*, London, 1906, pp. 292 *et seq.*, as corresponding to the Tibetan names which were given me. In cases where names are not given I have been unable to find the equivalent of the name given me, or have not obtained the native name of the animal referred to.

[2] *Cf.* "Notes on Sinhalese Magic," *Journ. Roy. Anthrop. Inst.*, vol. xxxviii, p. 197.

[3] *Cf.* "Notes on Some Burmese Amulets, etc.," *Journ. Roy. Anthrop. Inst.*, *infra*, p. 397 ff. They are also used as amulets in Africa.

[4] On this point I secured no information. Waddell (*Lhasa*, pp. 348, 349) says that the Tibetans attribute mystic virtues to the turquoise, believing that "it guards against the Evil Eye, and brings good luck and health . . . it warns off contagion, and that when it

In another ring, also of silver, but without stones, three hairs are used; in a third, of gold, two elephant's hairs are set with a hair of (it was said) a rhinoceros.

Thumb-rings of ivory (Plate XXXVI, Fig. 15) are quite commonly worn by the Bhutia men about Darjeeling, and are considered, on account of their substance, to be protective against devils. Ivory objects, such as these, which have been to war and used "to kill a man" (by being used to pull a bowstring, presumably) acquire medicinal properties and are highly valued. One such property is that of curing, by means of a little powder rubbed or scraped from the ivory and administered in butter, a child's disease, apparently diphtheria or something similar. An ivory wrist-guard which I obtained had been used thus medicinally; probably originally intended as a protection from the wearer's bowstring, it had been worn as a protection from the arrows (but not the bullets) of an enemy. This object is about 2 inches long, and is decorated with a number of dot-and-circle markings, the meaning of which the former owner, my informant, did not know. It had been worn by my informant's father, having been brought from Lhāsa many years before by my informant's grandfather, and was the only one of the kind my informant had ever seen.

Chank-shell is much worn as an amulet, probably because of its Buddhist associations.[1] Girls and women of the lower classes wear wrist ornaments, made each of a chank-shell with its tip and interior whorl removed, as a protection and as a means of securing good luck; these ornaments oftentimes are placed upon the wrists of young girls and allowed to remain until the girl's growth makes them impossible of removal without enlargement or breaking. An earring carrying a ring of chank-shell is a favourite amulet of Tibetan men, and is worn especially by Lāmas. A Tibetan layman, who wore an earring of this kind (Plate XXXVI, Fig. 16) told me that he did so, by direction of a Lāma, in order to protect himself from all sicknesses.

A joint of a certain small cane is often worn, amongst the numerous other medicinal charms suspended from the neck, by children, but I was unable to ascertain its specific purpose. A short necklace with such a joint upon it, obtained from a Nepalese child, is shown in Plate XXXVI, Fig. 17.

See also "Fever," below.

MEDICINAL SUBSTANCES.

From the medicine-sellers before referred to a number of medicinal substances, for popular use and of the same nature as the amulets which have been described, were obtained. In addition to these substances a number of packets of medicines composed, apparently, mainly of vegetable products, and similar, in their methods of application, to European medicines, were obtained from a former Lāma, educated at

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changes colour and blanches, it betokens mischief or sickness, and then they promptly get rid of it for a full-coloured one."

[1] *Cf.* "Notes on Sinhalese Magic," pp. 198, 199. Rockhill, *Land of the Lamas*, London, 1891, p. 110, says, "At Lh'asa a white conch-shell is treasured. They say that when it is sounded there can be seen a faint semblance of the glory radiating from Shenrézig."

Lhāsa and living at some distance from Darjeeling, who is consulted by patients from the whole district thereabout, but since these specimens lie without the province of folk-medicine they are not described below. As in the case of the amulets, the descriptions and intentions of the various substances are as given by their vendors.

For Fever.—The hoof and bones of the foot of the musk-deer are to be finely powdered and drunk in water, as a cure for Plains' fever; or small pills, said to be from inside the testicles (? the musk-sac, since musk acts strongly medicinally) of the same animal are to be drunk in water. The hairs of the musk-deer are carried as amulets curative of fever, often in connection with the use of the medicines to be taken internally.

For Coughs or Sore Throats.—A bone of a large white sea-bird is rubbed in water and drunk, as a cure for a child's coughing sickness. For a cough, there are pills to be taken in hot water. A piece of a tiger's tongue is to be rubbed in water and drunk, for the cure of a throat so sore that swallowing is difficult.

For Maladies of the Tongue.—A piece of rhinoceros' tongue is to be ground in water, which is then used as a mouth-wash (and spat out, not swallowed).

For Stomach, etc., troubles.—A sticky black substance, which is sold in the form of thin discs kept encased in a cylinder of thin wood, is to be eaten as a purgative. A piece of a white substance (apparently some salt) is to be taken, dissolved in milk, as a cure for "hot insides." There are pills to be taken for the cure of stomach rumblings. The skin of a rhinoceros' foot and a piece of entrail from a kind of deer (apparently, from the name, a kind of musk-deer) are to be rubbed together, in water, and drunk as a cure for internal pains in the side. A piece of bone and flesh of a small variety of deer (the carcase of the animal was kept by the medicine-seller for the supply of pieces) is to be boiled in water and drunk, for the cure of troubles causing the excrement to be bloody. For cattle afflicted by a sickness causing their excrement to be bloody, there is a red stone to be rubbed into water. A small loofah, brought from the plains of India, is to be eaten to cure loss of appetite.

For Beri-beri (apparently, from the symptoms described).—A piece of the hoof of an ass (*Equus asinus*, var. *Tibeticus*) is to be rubbed in water and drunk.

For Syphilis.—A solution of sulphate of copper in water is to be used to wash the parts affected.

For Sore Eyes.—A certain stone, brought from Tibet, is to be scraped to form a powder, which is to be rubbed on the eyes.

For Wounds.—An alabaster-like stone is to be rubbed on them, with a little saliva or warm water. A certain blackish mixed substance is to be rubbed in water which is to be used as a lotion.

For Pains.—A piece of tiger's fat is to be rubbed on the part affected, to cure pains in any part of the body excepting the head. A certain vegetable substance is to be cut up and boiled in water, to form a poultice to cure any kind of a pain in the arms or legs.

For Parturition.—A piece of a horn of Hodgson's antelope (*Pantholops Hodgsoni*) is to be rubbed in water and drunk.[1]

For Poisoning.—A piece of one of the scales of a scaly manis is to be placed amongst food suspected of containing poison; should the food be poisonous the dish will break. A piece of a certain kind of wood (or root) is to be rubbed in water and drunk as an antidote for poisoning.

For Miscellaneous Sicknesses.—A dried gekko is to be boiled in water and taken as a cure for any terrible sickness.[2] Wild cats' dung, sold either crude or shaped into forms, is used for the cure of some sickness, the nature of which was not known to the seller.

NEPALESE AMULETS.

The following amulets are representative of some of those worn by the Nepalese resident in the district about Darjeeling:—

Finger-rings, usually of silver (or Tibetan silver), occasionally of iron, inscribed with the names of Nepalese deities. An iron ring of this kind, in my possession, bears in addition a sun, moon, and star. These rings are sometimes worn by Bhutia and Tibetan women, but whether as amulets or merely as ornaments I could not ascertain.

Teeth or claws of animals. Plate XXXVI, Fig. 19, shows a silver pendant, with the figure of a deity, carrying a claw, a boar's tusk, and an animal's tooth. Plate XXXVI, Fig. 20, shows a copper pendant carrying a pair of claws.

Metal cases, sometimes rough, sometimes well made and ornamented with figures of deities, containing a composition including what appear to be small red seeds.

A joint of cane, such as is shown in Plate XXXVI, Fig. 17, on a cord with turquoise and other beads; this has been referred to above.

A glass piece bearing Arabic (or sham Arabic) characters, imported from Europe, mounted in metal of native workmanship, and strung with beads of agate, glass, and turquoise (Plate XXXVI, Fig. 18).

Description of Plates.

PLATE XXXVI.

Tibetan amulets:—

Fig. 1, 2.—Printed paper charms formed into packets.
" 3.—Amulet-case, with silver amuletic ornament attached.
" 4.—Amuletic ornament of copper.
" 5, 6.—Amuletic ornaments, with ornamental spirals.
" 7.—Amulet against lightning.

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[1] *Cf.* "Notes on Sinhalese Magic," p. 185, for unicorn's horn used in like manner, and Waddell's *Lhasa* for the suggestion that this antelope was [because of its profile] the "unicorn" of Huc.

[2] I think it possible that there is some connection between this lizard and the supposedly powerful dragon; in the Far East I have seen lizards, advertised for sale for medicines, called "young dragons."

Tibetan amulets—*continued*:—

Fig. 8.—Armlet of twisted metals, against strains.
„ 9.—Ring containing elephant hairs.
„ 10.—Amulet of plaited cords.
„ 11, 12.—Amulets of tigers' whiskers.
„ 13.—Piece of tiger's jaw.
„ 14.—Monkey's paw.
„ 15.—Thumb-ring of ivory.
„ 16.—Earring with piece of chank-shell.

Nepalese amulets.

Fig. 17.—Child's amulet.
„ 18.—Glass amulet mounted in brass.
„ 19.—Amulet with claw and teeth.
„ 20.—Amulet with claws.

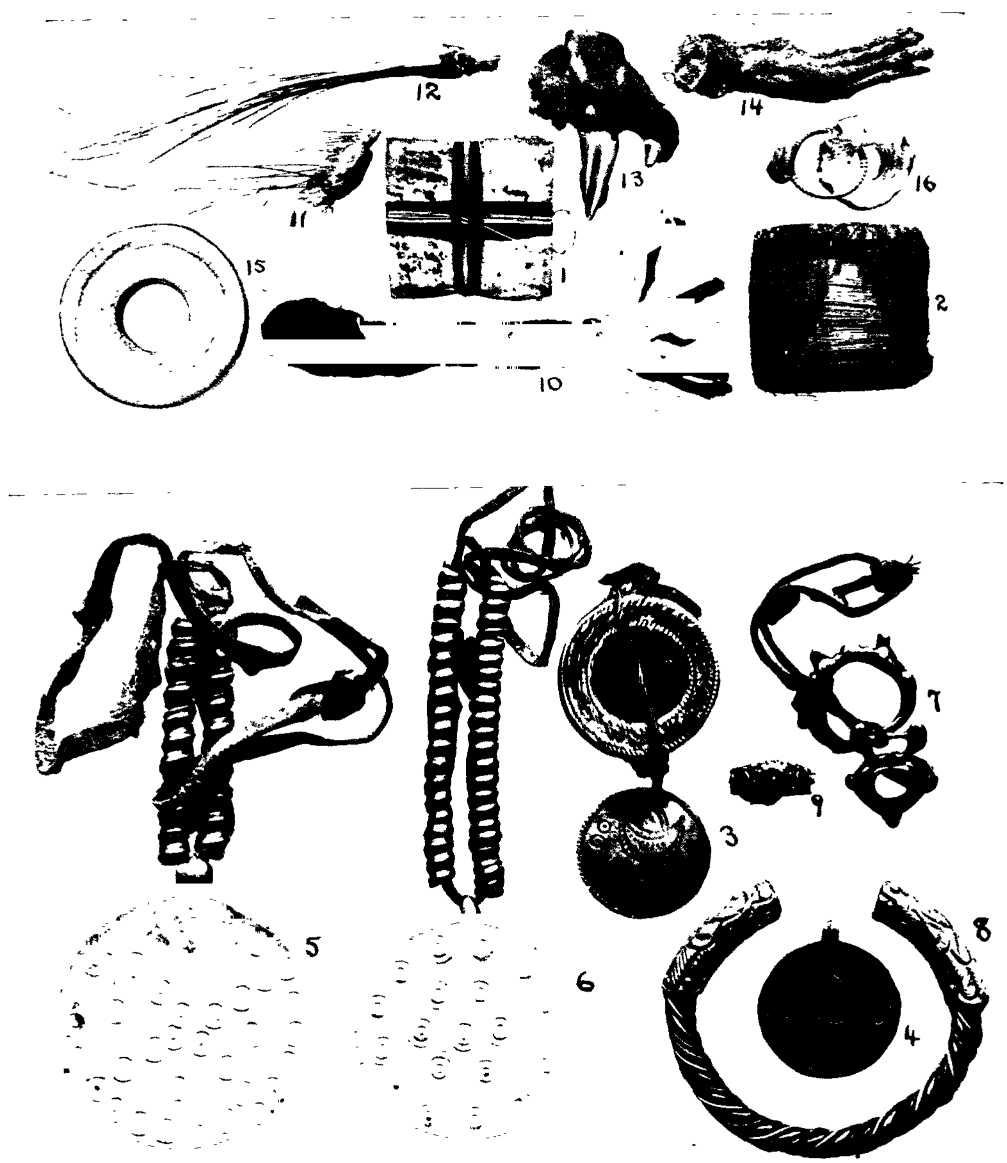
PLATE XXXVII.—Tibetan printed charms.

Fig. 1.—A charm for a person travelling.
„ 2, 3.—Charms for persons travelling, to keep off all sickness and to bring good fortune and whatever be desired. When the bearer reaches a river the charm should be shown to the devils of the vicinity, and waved about in the air in order to cause them to depart.
„ 4.—A charm to be placed within a house, in order that the inmates may become "great like an elephant." (*Note the elephant at the centre.*)

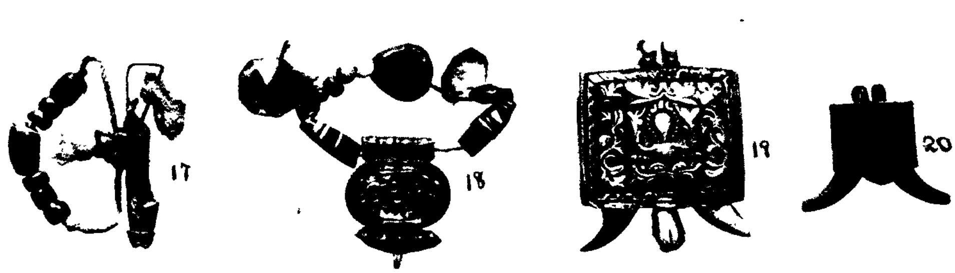
PLATE XXXVIII.—Tibetan printed charms.

„ 1.—A charm against the malignant spirits of the dead.
„ 2.—A charm said to be used by Lāmas to drive hailstorms away. The charm is to be shown in the four quarters, and waved about, and charmed seeds are to be scattered from a necromancer's horn. (The specimen from which this has been reproduced bears two prints of the picture.)
„ 3.—A charm for placing upon a door to keep out the devils causing sicknesses.
„ 4.—A charm said to be for placing upon the northern door of a house to keep out a demon of the north.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate XXXVI.*



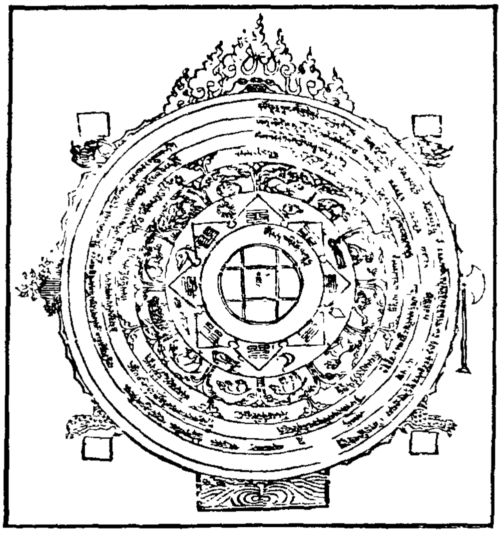
TIBETAN AMULETS, ETC.



NEPALESE AMULETS.

NOTES ON SOME TIBETAN AND BHUTIA AMULETS.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate XXXVII.*



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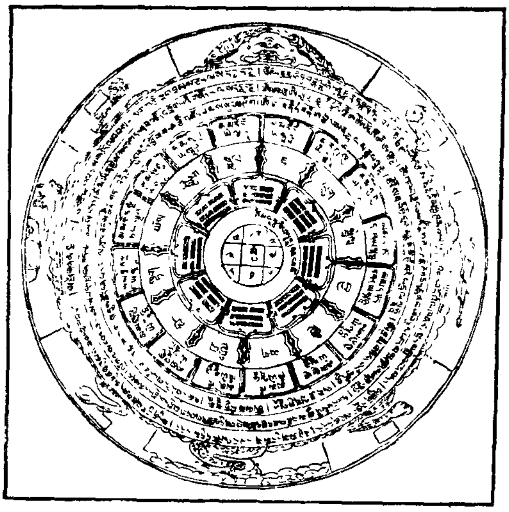

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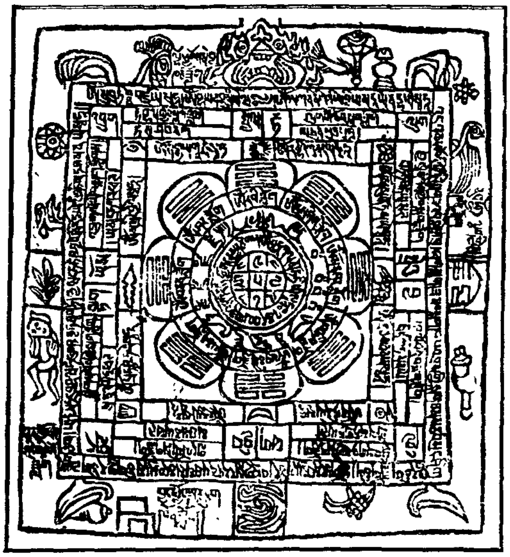

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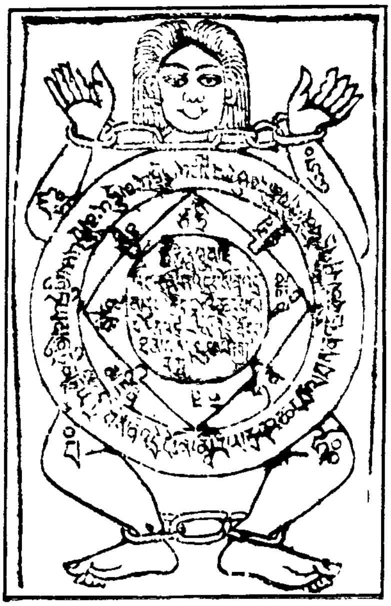
TIBETAN PRINTED PAPER CHARMS.

(Reproductions of the originals on reduced scales.)

NOTES ON SOME TIBETAN AND BHUTIA AMULETS.



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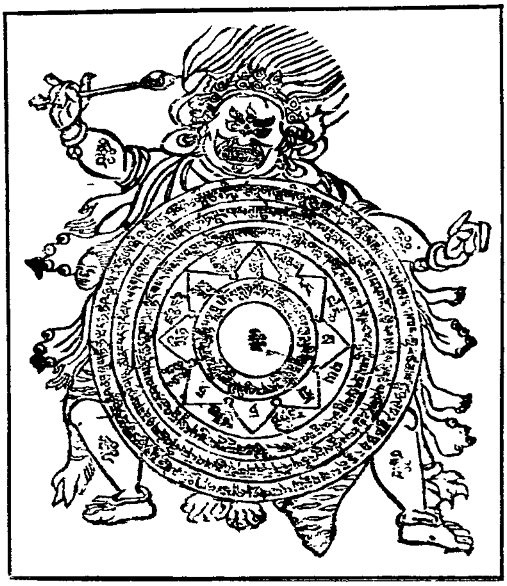

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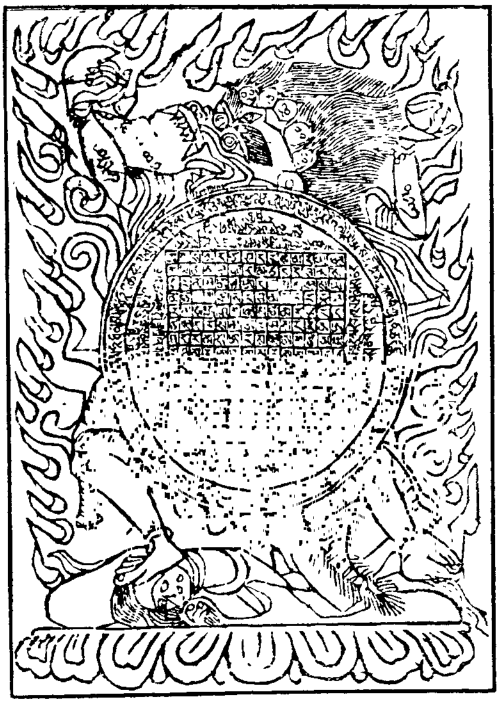

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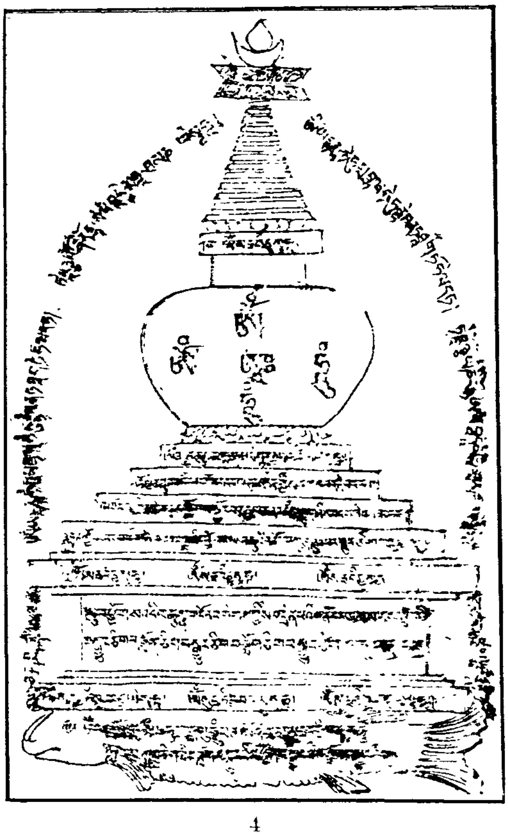

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TIBETAN PRINTED PAPER CHARMS.

(Reproductions of the originals on reduced scales.)

NOTES ON SOME TIBETAN AND BHUTIA AMULETS.

NOTES ON SOME BURMESE AMULETS AND MAGICAL OBJECTS.

By W. L. Hildburgh, M.A., Ph.D.

[With Plate XXXIX.]

The following notes are based on material collected in Burma in 1907, and refer almost entirely to beliefs of, and things used by, the Burmese. While many of the objects referred to are employed more or less commonly, with the same intentions, by the other races (such as Shans, Kachins, or Chins) inhabiting other parts of the country, since insufficient data regarding such employment were obtained in connection with the specimens, reference will seldom be made concerning it excepting in the few instances where things were said to be used especially by these other races, and not by the Burmese themselves.

The material was collected at Rangoon, at Mandalay and at Bhamo and some of the other towns along the Upper Irrawaddy. The localities given in connection with the various objects are merely those in which I happened to see or to obtain specimens, and should not be considered as in any way limiting the distribution of such objects. My facilities for obtaining specimens and information were much greater at Rangoon and Mandalay than elsewhere in Burma, partly because of the greater amount of time at my disposal in those cities, but principally because of the far greater number of dealers in, and users of, amulets and the like with whom I was able to get into touch there; for these reasons most of my material will be found to have come from either one or the other of those places.

In the cities, many of the amuletic objects are usually to be obtained at the stalls or booths connected with the great pagodas, such as the Shwé Dagon at Rangoon or the Arakan Pagoda at Mandalay, to which must come all the pilgrims to those cities, and at which, in the intervals of attention to their souls, they consult astrologers or physicians, provide themselves with natural or magical protections against, or cures for, the attacks of misfortune or disease, and often buy their cloth, their lacquered ware, their images, their tools, or whatsoever else their city of pilgrimage is a depôt for. The sellers of medicinal substances at these places are of either sex, and they keep, in addition to the ordinary animal and vegetable ingredients of Eastern medicines, frequently some protective or curative charms, and, occasionally, magically treated medicines or amulets. At the municipal bazaars, also, magical objects are sometimes to be obtained, but these are likely to be of a more commercial character—jewellery, substances used merely incidentally with protective or curative intent, or amulets imported from other countries either for the use of the Burmese or for that of the natives of those other countries. Sometimes, also, amulets of the cheapest kinds are kept, amongst their slender stocks of miscellaneous or second-hand goods, by the itinerant merchants, who take up positions on the ground in the open spaces connected with the bazaars.

The statements as to the purposes for which the various objects are to be used, and the other information concerning them, are as given me, in most cases, by persons who themselves used similar objects for the purposes mentioned, and are generally more or less familiar to the Burmese. There are, however, a number of specimens concerning which I was able to get information only from the sellers of them, by whom I was sometimes told that they believed the things to be used in the manner stated, but that they could not be certain, since their position was merely that of dispensers in accordance with the recommendations of more learned persons. The ignorance, real or feigned, of the actual users of amulets (*i.e.*, the persons upon whom they were seen in use, or the parents of such persons) with reference to their amulets was noticeable, as is so frequently the case elsewhere, and comparatively few details were obtained from such persons. Sometimes, indeed, parents would appear to know nothing whatever of the substance or form of their child's protection, although they might state its intended purpose. It should be noted, regarding the intended purposes of the various specimens, that these are reported in the forms in which they were received, and that a number of these forms must be considered as being in some degree interchangeable and to be read with latitude—thus, "against devils," "against sickness," "to keep from dying," "to keep from being frightened," are all more or less related to beliefs in malignant spirits, although the form which the actions feared may take varies according to the experiences of the giver of the information.

ANIMAL PRODUCTS.

Parts of the elephant, as in other Buddhist countries where they are available, are highly valued as protections.[1] As in Tibet and the neighbouring states, and in Ceylon, so in Burma the hairs from the elephant's tail are often used for the making of finger-rings. But in Burma these hairs, instead of being mounted in metal, are so woven together as themselves to form the rings. Such rings are worn by women during the months of pregnancy, as a protection against the attacks of devils, and are used especially by women whose other children have died, in order that the new-comer may not share the same fate. These rings are called *simii* (probably from *hsin*, elephant), and their virtue was said to be due entirely to the hairs of which they are made. I was told also that single hairs, not formed into rings, are sometimes carried with the same intention, and as being equally efficacious. Imitations of the elephant-hair rings, resembling their originals very closely, are made of palm-leaf, and are, I believe, more common than the genuine rings. They are very much cheaper than the genuine rings, and although I have been told that they are worn merely as ornaments and not as "medicine," I think it reasonable to assume that in many, if not in most, cases their wearers rely upon their close resemblance to their originals to deceive the malignant spirits. On Plate XXXIX, several rings of these kinds are shown. Fig. 1 shows a genuine ring, as sometimes sold, with the ends of the hairs projecting in order that the purchaser may satisfy herself of the authenticity of the material used; these projecting ends are generally removed when the ring is to be worn. Fig. 3 shows an imitation ring. Fig. 2 shows a very small ring of elephant-hair, for placing upon the finger or for suspending from the neck of a newly-born infant, in order that it may not die. These rings are much favoured by the Shans as well as by the Burmese.

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[1] *Cf.* "Notes on Sinhalese Magic," *Journ. Roy. Anthrop. Inst.*, vol. xxxviii, p. 197, and "Notes on some Tibetan and Bhutia Amulets, etc.," *Journ. Roy. Anthrop. Inst., supra*, p. 386 ff.

Elephant-nail is another material favoured, for the making of charms, by both Burmese and Shans. Charms of elephant-nail are worn by young children, generally less than four or five years of age, suspended for the most part from the neck, as a protection from sicknesses. In Figs. 4 to 8 inclusive, are shown some charms carved from elephant-nail; the forms of all the various specimens that I noted were said to be merely ornamental and without amuletic significance. Even the figure of the elephant was said to produce no protective effect; I was told this also concerning an amuletic figure of an elephant carved from a certain kind of wood, and concerning the figure of an elephant upon a golden ornament worn by a child on the Upper Irrawaddy. Finger-rings cut from elephant-nail, of various designs, are also worn by children.

Ivory is used for the making of certain magical figures (see "Charmed Objects") and seems to be believed in as enhancing considerably their efficacy. Part of an elephant's tooth ground in water and drunk is, I was told, a cure for the retention of urine.

Tigers supply, as in other Asiatic countries,[1] various amulets and remedies. A tiger's tooth, if rubbed upon a dog bite, will cure it and will prevent all ills arising from it, or powder made from a tiger's bone may be applied to a bite for the same purpose. A tiger's tooth is sometimes carried by a child as a protection from sicknesses. The tiger's clavicle, a small bone found in the muscles of its shoulder, is to be worn by a child "in order that it may keep healthy and grow big" [Bhamo].[2] The two specimens, shown in Fig. 9, were for sale, tied together as in the illustration, but were said to be for use singly. The knee-cap of a tiger, I was told at Bhamo, is sometimes carried as an amulet, sometimes rubbed in water to form a lotion. Tiger's skin, powdered, is used as a medicine.

The claws of animals are used as protective amulets for children, but, apparently, rarely by the Burmese. A bear's claw and a panther's claw, each mounted in silver as a pendant, which I obtained at Bhamo, were said to be Shan, and to be not used by the Burmese. Similar statements were made concerning certain animals' teeth, obtained at Rangoon. A tusk-like canine tooth of a musk-deer, mounted in silver, obtained at Bhamo, was not recognised as an amulet by any of the Burmese to whom it was shown, although some of them said that the skull of the same animal was used as a Burmese medicine; the specimen is probably Shan.

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[1] *Cf.* "Notes on Sinhalese Magic," pp. 197, 198, and "Notes on some Tibetan . . . Amulets, etc.," p. 392. For notes on the antipathy between the tiger and the dog see also *Malay Magic*; the belief enters also into Japanese protective folk-lore.

[2] I have been told that in Assam this bone is carried in order to secure good luck for its bearer. I have seen specimens, from what locality I could not tell, mounted in silver as pendants.

The knee-cap of a bison (?) is used for rubbing with water upon the arm to cure pains in that member. [Bhamo.]

Scales of the scaly manis are commonly worn by children, hung from the neck, as a protection from sicknesses and from frights (probably mostly those indicated by the sudden starting of the child while asleep). A skin of the same animal is sometimes hung up within a house to keep the inmates from illness. Fig. 10 shows one of the scales attached to a red cord, as frequently worn. It is worth noting, in view of the protective or curative virtues assigned to the colour red in many parts of the world, that, although the cords used for the suspension of a child's amulets or neck-ornaments in Burma are much more frequently red (or reddish) than any other colour, I was always told, in answer to my many inquiries concerning it, that no special protective virtue is assigned to red, and that it is favoured merely because of its decorative effect.

Red coral is worn by Burmese children as a protection against sicknesses. The beads and necklaces of that material, which I saw exposed for sale, seemed to be of European manufacture, and included a quantity of fragments of small branches, pierced and strung together, such as are prepared at Naples. Some beads formed of a red composition (apparently of European manufacture), sold as coral (although at a much lower price than that of the genuine substance) and supposed to be coral, were credited with the same virtues as genuine coral. In addition to its protective action the coral is believed to change in colour, in sympathy with the health of its wearer, *darkening* in illness. I judge the belief in the *darkening* of the coral is the general belief, because I was told of it at Bhamo, and again, by several Burmese, at Rangoon.[1] A school-boy, attending a school under European (Roman Catholic) direction, told me that a number of his school-fellows wore coral at the neck, as a protection, and that it *paled* when the wearer became ill; since this is the general European form of the belief I judge, from the circumstances, that it may be a present and local introduction at Rangoon.

A fragment of the spine-like tail of a king-crab, worn suspended from the neck, is believed to keep a child from sickness. This substance is more used, however, for protecting cattle from illnesses, pieces of it being buried with that intention in the soil of the field in which the cattle graze. As a cure for sickness in cattle it may be ground in water which is to be drunk by the animals; or the main part of the shell may be used in like manner.

Certain small shells are hung from an infant's neck in order to cure it of a sore mouth which prevents it from suckling properly, and also to cure it of the running of saliva from its mouth. This slavering appears, from what I was told by several Burmese, to be believed to cause the child to become sick, or to presage a coming illness, wherefore the Burmese endeavour to prevent it by the use of amulets such as these, or those of amber or other materials (see below).

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[1] It is curious if this is actually the case, since I have seen several references to Indian beliefs in the *paling* of coral, and since the natural sympathetic action would be a paling.

A cowry shell may be hung up in the cage of a singing or talking bird as a protection, in order that the bird may not, by means of sorcery (? envy or the evil eye), be prevented from using its voice. Cowry shells are sometimes put upon the heads of buffaloes, but only as ornaments, I was told, not as amulets. Cowry shells, burnt and mixed with lime, form a powder for application for the cure of skin diseases.

VEGETABLE PRODUCTS.

A part of the costume commonly worn by the Kachin women who come into Bhamo is formed of a considerable number of rings, resembling rings of wire, which are worn loosely on the legs just below the knee. These rings, which are formed of a black-lacquered vegetable substance, are credited with the property of protecting their wearers from weariness and from jungle sicknesses, and are, in consequence, worn commonly by the people of the district, including Burmese, Kachins, Shans and Shan-Chinese, when they have occasion to go upon the jungle-covered hills there. The larger rings of similar material, worn round the waist by the Kachin women are, I was told by several informants, merely ornamental, and are not considered to be protective. (Compare below, threads worn on legs by coolies.)

The seed-pod of *Helicteres isora*[1] (Fig. 11) which resembles a number of short cords twisted together is used, because of its appearance, against stomach pains (which make the patient feel as though his bowels were being twisted together), being either worn, wrapped in a cloth, upon the abdomen, or taken internally mixed with water [Bhamo].

The seed-capsule of the *Martynia* (Fig. 12), which resembles the upper part of a snake's skull, including the fangs, because of this resemblance is used against poisonous vermin. It may be worn at the neck, by a child, as a protection against snakes, or it may be used, rubbed in water, as a lotion for the cure of a snake bite or scorpion's sting [Bhamo]. It is worth noting that the *Martynia* is not indigenous, but is a weed introduced from tropical America.

Finger-rings cut from coconut shell are worn by women as a protection against evil, and (according to one informant) especially during pregnancy. Small rings of the same kind, apparently either for children or for suspension by a cord, are also obtainable [Mandalay].

At Rangoon a small figure of an elephant (Fig. 13), carved from Thingan wood (*Hopea odorata*) and formerly covered with gold-leaf, was obtained from a medicine-seller. This image was credited with the ability to protect its bearer from devils, by virtue of its substance and not, it was said, because of its form.

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[1] My specimen is one used by Burmese; at the Pitt Rivers Museum is one, used against snake-bite, from the Shan States. In the same collection is a seed-pod of *Helicteres isora*, for use against colic, from India.

MINERAL PRODUCTS.

Ornaments of amber are commonly worn by small children, it being believed that the amber has a protective effect, and also that it keeps the child from slavering (see note on shells, above). The amber is found in Burma, and is worked into numerous forms, some of them protective, others apparently merely decorative, most of which forms, seem, however, not to be repeated in other materials. Concerning the protective efficacy of the various forms, the opinions of the people (Burmese) questioned differed; in the following list are given the forms more or less commonly obtainable at Mandalay at the time of my visit, with the opinions of my informants regarding them:—

Frog.—(Figs. 14 and 15.) Apparently the most common form; said to be protective.

Dog.—Quite common; by some persons said to be protective.

Lion.—(Fig. 16.) Fairly common; by some persons said to be protective. (Compare below, Fig. 25.)

Fish.—(Figs. 17 and 18.) A common form; by some persons said to be protective, by others to be merely ornamental. The resemblance of the amber fish shown in Fig. 18 to the common Italian amulet representing a flaming heart is worthy of note, and is suggestive of some possible connection between that Italian amulet and the still more common Italian fish-shaped amulets. Concerning a small silver fish purchased in the bazaar at Mandalay, I was told by some persons that it was an amulet, but by more others that it was merely an ornament.[1]

Indefinite animals.—Rat (?), hare (?), humped cow (?); no special information obtained. (A figure of a humped cow, composed of charmed medicines, is described below.)

Gong.—(Fig. 19). Said to be protective.

Key.—By some persons said to be protective, by others to be merely ornamental.

Gun.—No information obtained.

The wearing of silver, of gold, or of jewellery seems sometimes to be considered protective in itself, and is,[2] I think, sometimes prescribed for a child; in default of precious metals, base metals may be used. A pair of necklets worn by a child of very poor parents, as preventive of slavering, appears to illustrate this. One of the necklets is formed of a red cord carrying three Chinese "cash," which latter were explained as being used instead of other coins more valuable than the parents could afford; the other necklet consists of three bits of silver—a defaced four-anna piece, a bit of rolled sheet, and a bit of folded sheet—on a red cord.

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[1] "Tradition says that in one of his former existences Gaudama was shipwrecked, but brought to land by a large fish, which he afterwards fed during its life." J. Anderson, *Mandalay to Momien*, Lond., 1876, p. 259.

[2] *Cf.* "Notes on Sinhalese Magic," p. 152. See also below, pp. 406 and 407. Lumps of gold are sometimes worn under the skin to secure invulnerability (*Mandalay to Momien*, p. 409).

A convex disc of gold, often plain, sometimes with a figure in *repoussé* upon it, hung by a string from the neck, is a common ornament of a Burmese child, and is often the only piece of jewellery worn. Brass ornaments, similar in shape, but generally coarser in workmanship, are also worn. On the golden discs I have seen the figure of a Burmese lion, a peacock, or an elephant; on the brass discs I have seen only the two former figures. These discs, I was told in each instance I inquired concerning them, are merely for ornament, and are not worn as protections.

MISCELLANEOUS AMULETS.

Strings of small gold circular pieces, rings with bars across them, are worn by children attached to their ankles or their wrists or (according to some persons) at the neck, in order that such children may grow up to be strong and healthy. In Fig. 20 there are shown five such pieces, all alike, upon a red cord; on another string that I saw at Mandalay the pieces were of two forms (one having four curved pieces, instead of three, within each ring, the other having two horizontal bars running across each ring, with two vertical bars between these bars and a third between the centre of the upper bar and the circumference). I was told that the pieces represented fetters, but I did not ascertain for whom (*i.e.*, whether for the child, on the plan of the well-known Chinese lock-shaped amulets, or for malignant spirits). The number of the pieces to be used in each case appears not to be fixed by rule, but to be limited only by the taste or purse of the child's parents.

A series of four necklets that I obtained from a child who was wearing them, at Bhamo, consists of: (A) and (B), two cords, each carrying a small sachet said to contain medicines to prevent mucus running from the child's nose; (C), a red cord carrying a triangular ornament of elephant-nail and four small rolls of metal (probably without inscriptions), worn against sickness; and (D) a red cord carrying three wooden objects said to be for keeping the child from crying, and a piece of black substance to keep the child from sickness. The mother of the child appeared to know nothing concerning the forms or materials of the pieces on (D); I was told by a man acquainted with amulets that the wooden objects probably represented a linen-beater, a pounder, and a wooden cow-bell, and that their virtue probably lay entirely in their substance.

Coolies sometimes wear a pair of cords, one round each leg just below the knee, against weariness and "to keep the blood from mounting to the upper part of the body" through over-exertion.

Charmed threads, as in India and Ceylon, are worn at the neck or wrist as a protection against devils. Ordinary white threads having been brought by the applicant, together with flowers and water, to a Buddhist priest, the latter recites certain verses over them.

AMULETS TO SECURE AFFECTION.

The following objects (with one exception) from Rangoon are for the purpose of gaining the affections of persons of the opposite sex or of causing a person to be liked and favoured by all those with whom he may come into contact.[1] Love-charms, I was told, are believed to exercise their powers more strongly at night than during the day, for which reason the night is considered to be the better time for testing their efficacy and value. It will be seen that sandalwood is the material, or an ingredient, of almost all the amulets described. It is probable that in some, if not in all cases, the objects have been subjected to special charming ceremonies.

A figure, about $\frac{11}{16}$ inch high, of a seated man (or Nat ?), carved from sandalwood and covered with gold-leaf. To be placed under the pillow at night "to cause a lady to come in a dream" (the meaning here was not quite clear), and to be carried thereafter to cause every woman to like the person bearing it.

A statuette, about $\frac{1}{2}$ inch high (Fig. 21) of two figures kneeling in coition, apparently made of sandalwood or of a mixture containing sandalwood, and covered in part with gold-leaf. To be carried concealed in her hair by a woman desirous of attracting her husband's love again, etc., or to be carried by a man in order to attract a woman's love; its effect was said to be exerted only upon the one person whose love is desired. Several other specimens, identical in form with this, were noted. (Mandalay.)

A statuette, about $\frac{15}{16}$ inch high (Fig. 22), of two figures standing in coition, carved from sandalwood. To be carried on the person in order to gain the love of the opposite sex.

A small lump of a dark mixture containing, amongst other ingredients, sandalwood. To be rubbed in oil which is then to be put upon the forehead, in order to cause any girl, in front of whom the person thus treated may stand, to fall in love with him. When not being used this substance should be kept carefully bottled up.

A figure, about $\frac{5}{8}$ inch high, of a man (or a Nat ?) seated, carved from sandalwood. To be carried, in order to cause everyone to like its bearer.

A figure, about $\frac{7}{8}$ inch high (Fig. 23), of a man standing in prayer, carved from sandalwood. To be carried, to cause everyone to respect its bearer.

Small figures of Burmese priests, of about the same sizes as the statuette just described, or slightly larger, carved from sandalwood or ivory, are carried as charms to cause all persons to like their bearers; they are believed also to bring good-luck. An ivory figure of a priest, in the possession of a man from whom I bought various amulets, was said to be much more powerful as a charm than similar figures of sandalwood, and its price was, correspondingly, very much higher.

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[1] *Cf.* "Notes on Sinhalese Magic," pp. 157 *et seq.*

A figure about $\frac{1}{2}$ inch high (Fig. 24) apparently representing a man seated in prayer, said to be carved from the bone of a man's wrist. To be carried as a very powerful charm to cause every one with whom he comes into contact to like its bearer.

A figure, about $\frac{11}{16}$ inch high (Fig. 25), of a leogryph, formed of a perfumed substance and covered with gold-leaf. To be carried by a person born on a Tuesday, in order that enemies may be conciliated, etc.

CHARMED MEDICINES AND MEDICINAL OBJECTS.

There are obtainable at Rangoon, from some of the charm-vendors, curative objects and substances whose efficacy is considered to be due to, or to have been greatly enhanced by, magical processes to which they have been subjected. Some of the medicinal substances have been shaped into curious figures which, presumably, are intended to add to their power. The quantity of material used for the formation of these figures is, in general, so large in comparison with that required for the treatment of a patient as to indicate that in most cases the figure is intended for the physician or pharmacist to use as a source of supply, and that it is not intended for sale, as a whole, to a patient.

The following objects are intended to be used remedially, but without themselves being destroyed in the curative processes :—

Thin sheets of silver, inscribed with magical formulæ, which frequently are rolled up in the form of a tube. These sheets are to be worn, strung on cords, as amulets, or are to be put into water which is then taken as a potion. The specimen shown in Fig. 26 is a cord bearing four rolled inscribed sheets, and is to be worn upon the right wrist as a protection against, and a cure for, fever; other specimens for the same purpose had, respectively, two sheets and one sheet. The plates for use in water are sometimes put on cords, sometimes not.

Flattish blocks, an inch (or a little more) square, of a hard substance, appearing as though they had been cut from the sides of a large globular clay vessel, which are inscribed with squares containing characters on each face, are used, like the silver sheets, to impart medicinal qualities to water. The specimen shown in Fig. 27 has a square of sixteen compartments on each face, and is believed to cause water in which it is placed to become curative of "a hard stomach." Other specimens, kept by the same vendor, had squares of four compartments only on each face.

The statuette shown in Fig. 28, and representing, I was told, a humped cow, is composed of medicines and covered with black varnish. It is to be put into water, which is then to be drunk as a cure for the effects of sorcery.

The statuette shown in Fig. 29 represents a Beloo[1] riding upon a horse, and is composed of medicines and covered with gold-leaf. It is to be placed in a house, or carried (although rather large), to keep devils away.

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[1] "A kind of monster which eats human flesh and possesses certain superhuman powers." Judson's *Burmese-English Dict.*, Rangoon, 1893.

The following objects, composed of medicines and covered with, or showing traces of, black varnish, are to be taken internally, scrapings of, or fragments from, them being drunk in water:—

The specimen shown in Fig. 30 is for the cure of "devils inside of a man," or the effects of sorcery. A beehive-shaped object (not shown) about 1¼ inches high and 1½ inches diameter at the base, with its surface divided horizontally into five sections, is for the same purposes.

An obelisk-shaped specimen, 2¼ inches high, composed of medicines differing from those of the preceding two specimens, is to be used for the same purpose. Another, of similar form, is for use against snake-bite.

The two specimens shown in Figs. 31 and 32 are for drinking in water, to keep devils away. One is a figure of a man, holding what appears to be a club horizontally over his right shoulder. The other is a figure of a person kneeling in prayer; in the illustration there may be seen, in the centre of the base, a small hole, apparently made in order that portions of medicine may be scraped away for use, while there is a similar hole in the top of the figure's head.

The following objects, of the same nature as those which have been described just above, formed part of the stock of an old man, who seemed to have the highest reputation amongst the medicine-sellers about the Shwé Dagon, and who dealt only in charmed objects and not in ordinary medicaments. I wished to buy some of his things, which differed from those of the other vendors, but the prices, which ranged from ten to fifty rupees apiece, were so high as to be prohibitive. The explanation of these high prices lies in the time he claimed to have needed for the preparation and charming of the objects (seven years were said to have been spent over one of them), and in the difficulty that he would have had in replacing them for prescribing. Should these objects be taken to a latrine, or other dirty place, they are in imminent risk of losing their virtues, and they must in no circumstances be brought into a house where a dead body lies, or to where there are "bad" (menstruating?) women.[1] Many of the objects kept by this man were covered, in whole or in part, with gold-leaf, in order to increase their efficacy.[2] The explanations are as given by the owner of the objects.

An inscribed thin sheet of silver, rolled on a cord. To be worn, to cause all persons to like its bearer. When not in use it should be preserved in a bottle with some sandalwood.

A small image of a certain Nat, made of sandalwood. To cause all persons to like its bearer. This amulet was unfinished; it lacked its covering of gold-leaf and required the performance of ceremonies taking about ten or fifteen minutes.

An image of a Nat, formed of medicines, which had required several years for its preparation. This amulet may be carried as a means of winning the affection of

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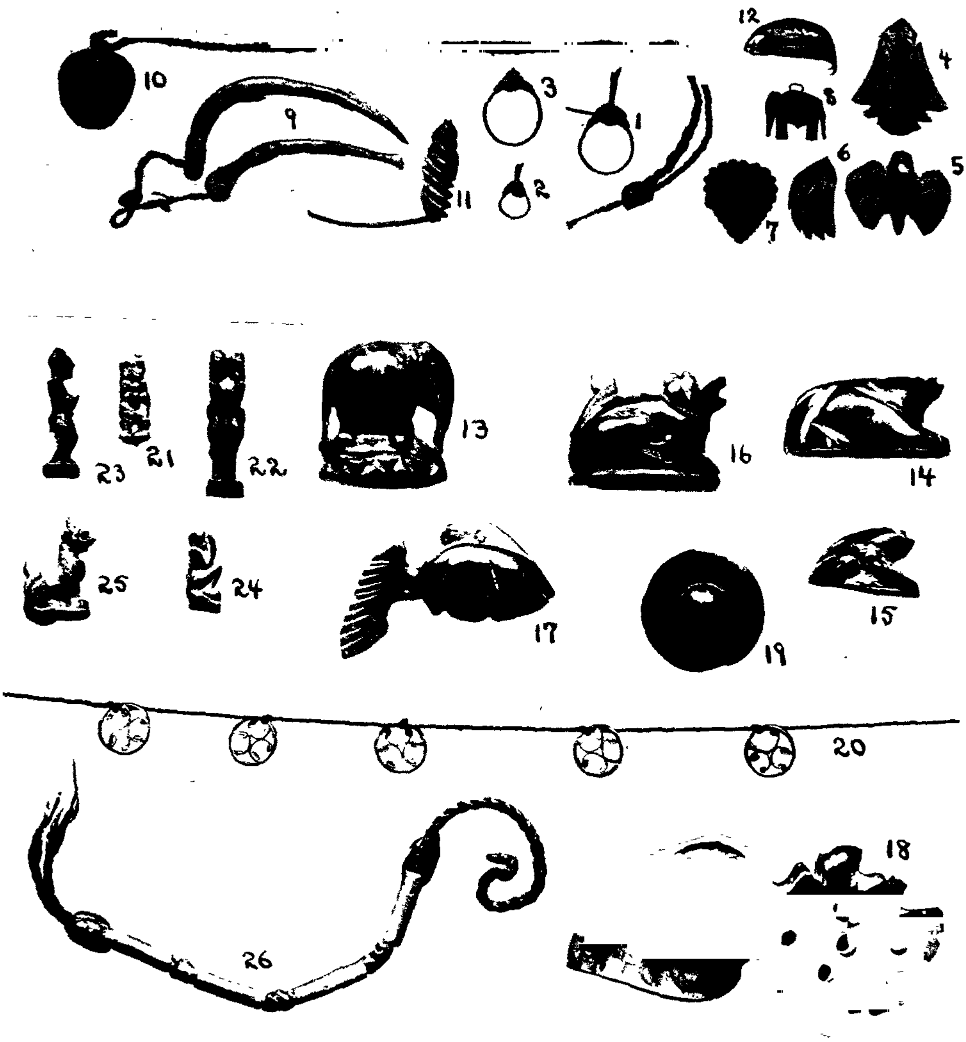
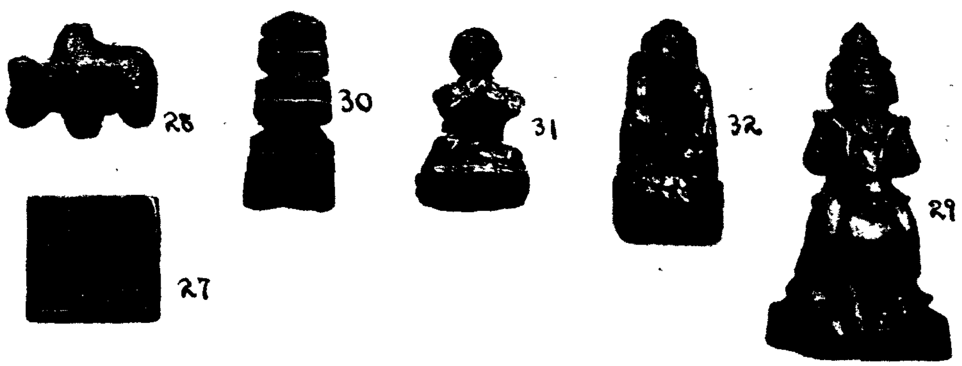
[1] *Cf.* "Notes on Sinhalese Magic," p. 151.

[2] *Ibid.*, p. 152.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909, *Plate XXXIX.*



BURMESE AMULETS, ETC.



BURMESE CHARMED MEDICINES, ETC.

NOTES ON SOME BURMESE AMULETS.

those with whom its bearer comes into contact, but it is intended principally for supplying scrapings, to be drunk in water or coconut-water, to compel the love of persons, or to help towards success in a business undertaking.

A gilded cone composed of medicines. To be rubbed into water which is to be sprinkled upon a person for the cure of the effects of sorcery.

A small cone, ungilded, composed of medicines. To be used in tatuing, to bring upon the subject the favour of all the Nats; or to be scraped and drunk in coconut-water, for the same purpose, for seven days or for fourteen days in succession, after which its use may, in most cases, be discontinued.

Description of Plates.

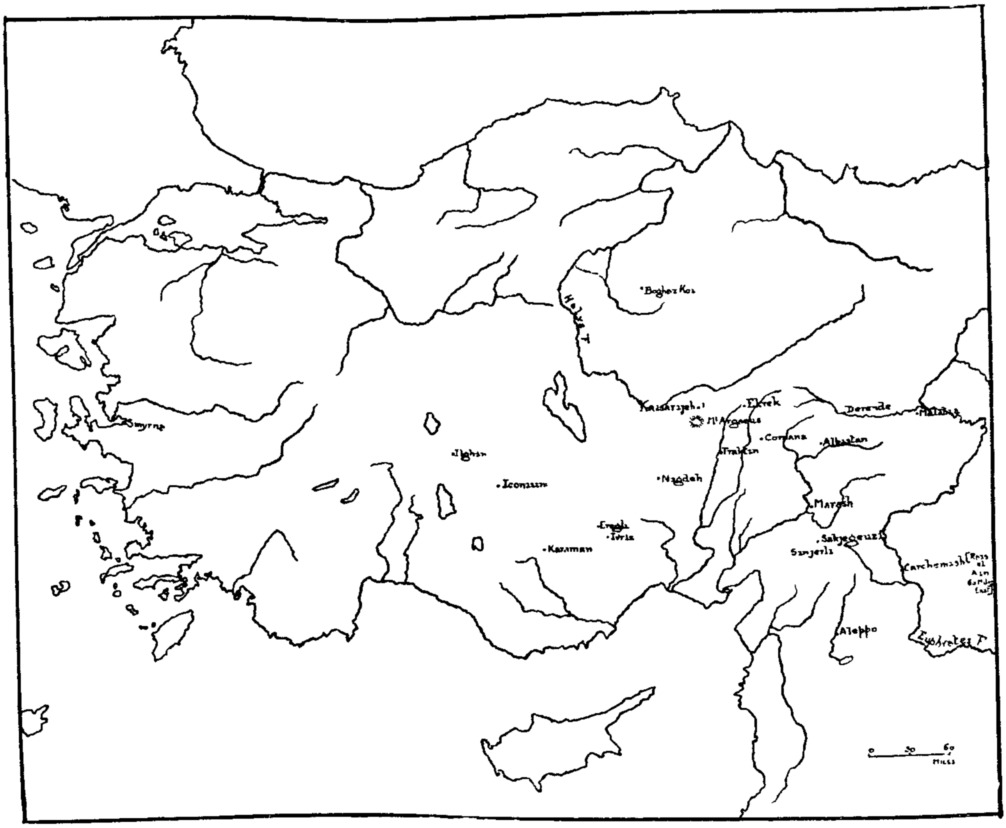
PLATE XXXIX. BURMESE AMULETS, ETC. (*Dimensions given in text.*)

Figs. 1, 2.—Finger-rings of elephant-hair.
Fig. 3.—Finger-ring of imitation elephant-hair.
Figs. 4, 5, 6, 7, 8.—Amulets carved from elephant-nail.
Fig. 9.—Tigers' bones used as amulets.
„ 10.—Scale of scaly manis, on cord.
„ 11.—Seed-pod of *Helicteres isora*, against stomach pains.
„ 12.—*Martynia* seed-capsule, against snakes, etc.
„ 13.—Charm of Thingan wood.
Figs. 14, 15, 16, 17, 18, 19.—Amber amulets: two frogs, a lion, two fish, a gong.
Fig. 20.—String of amuletic gold ornaments.
Figs. 21, 22.—Love-charms.
Fig. 23.—Sandal figure, to secure respect.
„ 24.—Figure of human bone.
„ 25.—Leogryph of perfumed substance.
„ 26.—Inscribed silver sheets, against fever.
„ 27.—Medicinal amulet.
Figs. 28, 29.—Amuletic objects formed of charmed substances.
„ 30, 31, 32.—Charmed medicines in the form of figures.

RECENT HITTITE RESEARCH.[1]

By D. G. Hogarth, M.A., F.S.A.

It is unnecessary at this stage to review in detail the earlier history of the Hittite problem—that problem which was set before scholars in the latter part of the nineteenth century by the discovery of the part played in the foreign relations of Egypt and Assyria by a west Asiatic people called the Kheta or Khatti, coupled with the further discovery of a class of monuments in a peculiar art and script, which were claimed for the work of that people. It came to be generally agreed that it was identical with the race known to the Israelites as the Hittites, and that its civilization had filled an important, though long-forgotten, place in ancient history, intermediate between east and west.



MAP OF ASIA MINOR SHOWING SITES.

The monuments in question were observed first in Northern Syria, but later were found to be at least equally numerous in Eastern Asia Minor, and even to occur sporadically on the western part of the Anatolian plateau almost as far as the Ægean coast. Stray examples which were excavated at Nineveh and Babylon were reasonably put down as foreign objects, spoils of war, gifts or commercial importations.

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[1] Read at the Winnipeg Meeting of the British Association, 1909.

The tendency of scholars at the outset was to regard the Hittite race and its civilization as primarily Syrian. This view was owed partly to the geographical situation of the earliest discovered monuments, partly to the Hebrew, Egyptian and Assyrian records, whose references to Hittites, so far as they were then understood, seemed all to refer to a people domiciled in Northern Syria. So long as this view held the field, the people in question was considered of small account compared with the well-known ancient imperial peoples of the Nilotic and Mesopotamian valleys. Syria has always been a land of relatively small groups, living without close political unity in a restricted area. To have been even the most considerable of these groups at a certain epoch was not to bulk very largely in ancient history. As time went on, however, and the known range of the monuments was extended to Asia Minor, our estimate of the importance of the Hittite civilization, if not of the Hittite race, began to grow, and some scholars, notably Sayce, spoke roundly of a "Hittite Empire." Presently also the same scholar, with the agreement of Ramsay, Perrot and others, expressed a belief, based on observation of both the art and the script, that Cappadocia rather than Syria was the original home of the "Hittite" civilization: and that it was only at a later time, contemporary with the eighteenth and nineteenth Egyptian dynasties that it became domiciled south of the Taurus. From study of the Egyptian records others, *e.g.*, Dr. W. Max Müller, reached a similar conclusion.

We need not now follow the ups and downs of the controversy which ensued, nor raise again the objections taken: for the issue has been practically decided in Sayce's favour by certain discoveries made in Cappadocia three years ago. These have set the whole Hittite problem in a much clearer light, and must be the starting point of our present review.

The site of a remarkable prehistoric city was discovered in 1834, at Boghaz Koi, in North-western Cappadocia, by Texier and Hamilton, independently, but almost simultaneously. Its remains covered a large area of rocky ground, the centre, and apparently acropolis, of the city being an eminence known as Buyuk Kaleh. Here were obvious remains of strong fortifications and of a large and massive building, either a palace or a temple. But what attracted most attention to this site was a series of rock-reliefs on the walls of a hypæthral recess in a hill-side a short distance away, and these soon became famous as the prehistoric sculptures of Yasili Kaia. About thirty years later the Emperor Napoleon III. promoted an expedition for the better exploration of Galatia and Cappadocia, and the result was the publication of these reliefs, of a plan of the site at Boghaz Koi, and of reproductions of a rock inscription and of objects lying on the surface, in the *Exploration en Galatie*, etc., of MM. Perrot and Guillaume. But at that time the "Hittite" art and script were still unrecognized; and it was not till 1878 that it was observed by Sayce that the style of the Yasili Kaia reliefs and the pictographs which accompany certain figures in them, were identical with the "Hamathite" or Hittite. No excavation was carried out on the site till 1890, when E. Chantre went to the spot, did some superficial digging, and established the very interesting fact that the site yielded clay tablets inscribed in the cuneiform character. Cappadocia had for some time been known to produce such tablets, the distributing centre of which was Kaisariyeh. Their original sources remained, however, for awhile a mystery, and cuneiform scholars, unable to read some of them, suspected forgery. But when Chantre not only found similar tablets on the site of Boghaz Koi and in the hands of peasants living near, but also traced some Kaisariyeh specimens to a mound lying three hours to the east and known as Kara Huyuk, and others to other sites, *e.g.*, Huyuk, north-east of Boghaz Koi, the existence of a genuine Cappadocian class of cuneiform records was placed beyond doubt. He obtained also certain bronzes, which illustrated a prehistoric Cappadocian art; and subsequent explorers of the region, mostly British students, began to observe the fragments of pottery which lay on the surface of Cappadocian mounds, and to discover that there had been also a very remarkable ceramic fabric, in the most distinctive variety of which a thick creamy slip was used to carry geometric and other decoration in more than one colour. Their observations were synthesized and discussed by J. L. Myres in the *Journal of the Anthropological Institute* for 1903, vol. xxxiii, pp. 367–400.

By this time much curiosity had been aroused concerning prehistoric Cappadocia, and especially Boghaz Koi, which was patently the most important of its early sites. More than one proposal was made to the Ottoman Government for leave to excavate the place and a German application finally carried the day. In 1906, Dr. Hugo Winckler, the well-known cuneiform scholar, proceeded thither to make a preliminary survey, and in this and a subsequent visit collected a number of fragmentary cuneiform tablets from the site of the city. Some of these proved to be in an unknown language, but others were in Babylonian and could be read at once. A startling revelation ensued. One of the fragments contained part of a document, whose tenour was identical with that of the famous treaty made by Rameses II with Khetasar, King of the Hittites, about 1280 B.C., and inscribed on a wall at Karnak. The names of the Kheta kings mentioned at Karnak appeared also on the Boghaz Koi tablet under variant but readily recognizable forms. *Khetasar*, who made the treaty, was *Hattusil:* his predecessor, *Mutnara*, was *Mutallu:* the next in ascent, *Maurasar* or *Marsar*, was *Mursil;* and finally *Sapalulu* or *Sapararu*, who had treated with Seti I., was written *Subbiluliuma.*

This discovery was enough to prove that the city at Boghaz Koi had formed part of the Kheta confederacy against Rameses, and that it was itself so far Hittite that it worshipped Teshup, the god already known for chief deity of the Hatti. But that this city was itself the city of Hattusil and head and centre of the confederacy was not clear till other tablets had been read, most of which were found when regular excavation was undertaken in 1907. These included documents referring to all these four kings, and notably records amounting to chronicles of the two most important reigns, those of Subbiluliuma and Hattusil II, together with letters written to other courts and to vassals. Three more kings were added to the list, from an earlier *Hattusil*, predecessor of Subbiluliuma, to *Aruanta*, second in succession from Hattusil II.

It was now beyond question that the tablets are disturbed remains of royal archives, and hardly less certain, when their various character but common reference to one dynasty were considered, that these archives were those of the kings of Boghaz Koi from the fifteenth to the twelfth centuries B.C. Scholars found themselves face to face with the fact that the capital of the Kheta or Hatti folk, before the Assyrian records begin to speak of them at Carchemish, in Syria, lay in North-western Cappadocia, and that the early seat of Hittite civilization was there.

The documents, which have so far been read, have taught us also much more. They have enhanced enormously our estimate of early Hatti power, and placed it on a par with that of the better known empires which were its contemporaries. We see Subbiluliuma, son of a client of Babylon, asserting imperial independence and conquering the power of Mitani, which we know from the Amarna archives to have been the chief north Mesopotamian state in the earlier part of the sixteenth century. He reduces to vassalage the Amurri, also well known, from other records, as the Bedawi lords of the Mesopotamian and Syrian deserts.

When he had thus extended his suzerainty we find him writing to the son of Katashman-Turgu, King of Babylon, not as a vassal but as an equal, and urging him to take action against a common enemy, conjectured by Winckler with great probability to have been the rising North Semitic power of Assyria. Dominance over Mitani, suzerainty often rebelled against, but always reasserted over the Amurri, and command of Syria down to Carchemish, Aleppo, and even farther south, are still evinced in the correspondence of Hattusil II, who, as we know from Egyptian records, held even Kadesh in the Aramæan region near the head waters of the Orontes, and over four hundred miles from Boghaz Koi.

If Hatti dominion extended from Cappadocia thus far into Syria in the thirteenth century B.C., it is hardly necessary any longer to boggle at the probability of its having embraced at that period the greater part of the peninsula in which it first arose. The occurrence of "Hittite" figures carved in the rock near Smyrna (in the Kara Bel pass and on Mt. Sipylus) ceases to be an inexplicable puzzle; Sayce's much-derided contentions that Lydia, before the Mermnad dynasty, was a "Hittite satrapy," and that it derived its Mesopotamian names and affinities through a Cappadocian intermediary, pass now into the domain of reasonable inference; and the observations of Ramsay, Perrot and others that the earlier Phrygian monuments display strong Cappadocian characteristics find their justification and their explanation. Even if Winckler's discoveries had never been made, the cumulative results of other recent research in Asia Minor would have established the fact that Hatti civilization was at home in Cappadocia, and radiated thence over the whole central plateau. Ten years ago the Hittite monuments discovered south and west of the Halys were scarcely above half a score in all, and this small group was so widely spaced that it was not unreasonably supposed to be the memorial of some one moment of alien conquest or passage. But the number of such monuments has been so notably increased of late and their distribution has become so much more close and general, that Hatti sites and monuments can no longer be regarded as accidents outside Northern Cappadocia. In Southern Cappadocia, for example, *i.e.*, Cappadocia south of the elbow of the Halys, about a dozen monuments and several sites have been added by superficial exploration alone, without any help from the spade. These include two monuments, a colossal eagle and a foursided inscribed *stela,* from the banks of the middle Halys itself: an incised rock inscription from Mt. Argæus; another from the valley of the Zamanti Su to the south of this mountain and not far from Fraktin, where also the site of an early settlement has been discovered. Furthermore we have an inscribed lion from Comana with an uninscribed fellow: a second rock-relief at Ivriz: an uncertain number of rock inscriptions from the valley of the Tokhma Su near Derendeh, found, but not yet published, by the Cornell Expedition, and some sculptured stones apparently discovered near Malatia and photographed, but not yet seen by an Oriental scholar. With the monuments previously known in the Albistan, Eregli, Nigdeh, Ekrek and Nevshcher districts, the new examples leave little unoccupied ground in Southern Cappadocia: and this result, be it said again, has come about without search having yet been made below the surface of the soil.

Nor was the same civilization less at home apparently in Southern Phrygia or Lycaonia. To the stray Hittite monuments previously known in the Iconium and Ilghin districts, Sir William Ramsay has now added a group of relief inscriptions at Emir Ghazi, and he and Miss Gertrude Bell have found a sanctuary with the outlined figure of a god and incised inscriptions on the Kara Dagh not far from Karaman. As Hittite monuments have long been known to occur in the Sangarius basin also, we are left with the certainty that Hatti civilization once pervaded the whole Anatolian plateau. Mr. H. R. Hall, in an interesting article recently published in the *Journal of Hellenic Studies,* does not go too far in calling the Hatti the "type-people of Asia Minor," and in saying that those conceptions, usages, and the like, which we have long recognized in ancient life as "Anatolian," must in future be regarded as, in origin, Hittite. His article is a sign that scholars are prepared to submit the early Greek myths and legends to fresh examination in the light of the newly accepted facts about Hatti domination in the *hinterland* of Greek Asia. It may be added that the art, as well as the ethnology, of early Greece calls for similar re-examination after these discoveries.

An unfortunate illness has interrupted Dr. Winckler's work at Boghaz Koi since 1907, but it is much to be hoped that the Berlin societies interested in that excavation will not allow it to stand over *sine die.* The report issued in December, 1907, which contained the fullest account of the tablets yet published, did not contain proof that the archæological documents of the site in the strict sense of the term had been sought for, observed, and studied as seriously as the historical documents. Yet where are we to learn Hatti archæology, if not at Boghaz Koi? There alone have been found written documents precisely dated wherewith we may hope to classify the unwritten. We want to know the exact relation in which these lie to pottery, buildings and all other remains of Hatti culture. If Boghaz Koi be not dug out to the bottom according to the best rules for the excavation of stratified sites, Winckler's brilliant discoveries on the surface will lose more than half their value.

We may hope, too, for more cuneiform archives, and particularly for the correspondence of successors of Hattusil II. Two very interesting points in the later foreign relations of this Cappadocian monarchy remain obscure. On the one hand what happened to the Hatti monarchy in Asia Minor after Hattusil II? On the other, what happened to the Hatti immigrants into Syria? The first question probably depends for its answer on our ability to answer the second. The whole record of the Syrian Hittites bristles with difficulties at present. The Amarna correspondence, which speaks of the Kheta as a danger only to the northern borders of Syria, agrees with what we should naturally infer from the records of Subbiluliuma, namely, that in the latter's reign and not before, the Hatti came south in force, and established overlordship in Northern Mesopotamia and Northern Syria. Yet there are references in other records to peoples of that name having appeared even farther south a good deal earlier. For example, there is the well known mention of "children of Heth," at Hebron in the history of Abraham; and a fragmentary chronicle of the First Babylonian Dynasty states that "Hatti" invaded southern Mesopotamia about 1800 B.C. A ready and possibly right way out of the difficulty is to suppose that the Cappadocian Hatti were not the only "Hittites," but were part, if ultimately the most important part, of a race widely distributed over Western Asia at a much earlier epoch. This seems to be the view of Winckler himself, for he clearly states his belief that the Mitani were in the mass ethnically kin to the Hatti, worshipping the same supreme god, Teshup. Nor is he disturbed in this belief by what is perhaps the most startling of the revelations made by the Boghaz Koi tablets, namely, that the royal house of Mitani, in the time of Hatti domination, invoked gods who have familiar Aryan names, Indra, Mithra, Varuna, and the Açvin Twins; for he finds evidence that this royal house was alien and derived from *Harri*, which he thinks was not Harran, as might be guessed at first sight, but Mt. Hor in the south.

If Winckler be right in this ethnical identification of Mitani and Hatti, we may suppose that the latter name was used by scribes of the Mesopotamian monarchies without precise reference to the Cappadocian people, and thus we may explain another difficulty, namely, that in the Assyrian records, from the time of Tiglath Pileser I onwards, "Hatti-Land" does not seem to mean Cappadocia at all, but only North Syria. It is noticeable also in these records that, though all North Syria seems to be generally called *Hatti-land*, and names of places in Commagene (*e.g.*, Pitrû) are quoted as Hatti names, there is more mention of the *Kummukh* as a *people* then, than of the Hittites. At any rate we must infer that the Kummukh were still a people with a recognized distinct existence, although it remains highly probable that they, like the Mitani, had been included under Hatti dominion, and perhaps were ethnically kin to the Hatti.

This difficulty, however, is not great if it be remembered that the Assyrian records all refer to a later age than the Egyptian or the Cappadocian records of the Hatti. It is reasonable to suppose that the period of Hatti conquest was long past, and that small groups, formerly subject, had reasserted independence—a familiar result of most oriental imperial conquests. These considerations raise under a new form an old question—whether, after Winckler's discoveries, we are any more justified than before, in regarding the Hittite monuments of Syria as altogether, or at all, the work of the same authors as those of Asia Minor. There can be no doubt that they represent one and the same civilization, and that during a long period there prevailed a uniform art which used identical subjects and means of expression, together with a uniform script which expressed languages very closely akin, from the Black Sea (and almost from the Ægean Sea) to mid-Syria. But that all the Syrian monuments are memorials of the Cappadocian Hatti is even less probable than that all the Anatolian monuments were the work of Syrian Hittites. It is much more likely that we shall ultimately be able to distinguish in the general Hittite class, Mitani, Kummukh, and other sub-groups. To the former (or to an Amurri group) one would naturally refer the rude sculptures of undoubtedly "Hittite" character accompanied by cuneiform legends, which Max Freiherr von Oppenheim discovered in 1902 in the large mounds of Tell Halaf near Ras el-Ain in mid-Mesopotamia, but published only in 1908. To a Kummukh group belong perhaps the "Hittite" remains excavated at Sinjerli a dozen years ago by Dr. von Luschan and others, and those now in process of examination at Sakjegeuzi, by Professor J. Garstang. On both these large and important North Syrian sites the very interesting Hittite sculptures, so far found, are of a provincial style, and, up to the present, Hittite inscriptions are wholly wanting. One must not lay too much stress on the last fact; neither site has been yet examined at all exhaustively, and at Sakjegeuzi, in particular, only one out of five mounds has been probed; but enough has been done even there to raise a suspicion that, as at Sinjerli, the art remains are all of comparatively late period and derived style, and that the distinctive pottery and perhaps even the distinctive script of the Cappadocian Hatti were not in local use.

At the same time not only have monuments in that script been found in Syria round about the habitat of the Kummukh, for instance at Marash and Samosata on the north, at Hamath and Aleppo on the south, and along the Euphrates on the east; but so also has art of a higher order in the last indicated district. The sculptures and inscriptions of Jerablûs, which was almost certainly Carchemish, and also those recently found at Tell Ahmar, a few miles lower down the Euphrates, but on the Mesopotamian bank, are as finely executed as the best rock sculptures of Cappadocia, and even more advanced in style. Did these spring from the fountain head of the civilization, even if those of inner Syria did not? Are they the work of the Cappadocian Hatti themselves, who settled after their southward venture at Carchemish and made it a southern capital? It may be so, but also, it may not. Carchemish is mentioned in the Boghaz Koi records of Dudhalia, successor of Hattusil II, as having even then a king of its own. The fine execution and style of the Euphratean Hittite sculptures finds an explanation in their most markedly Assyrian character. Equally with those of Sinjerli and Sakjegeuzi they may have been the work of a subject people and been inspired by a derived art; and they probably owed their superiority to proximity to Nineveh, and relations with the great Mesopotamian trade routes towards the west.

The presumption therefore at present is rather against than for the Syrian groups of Hittite monuments being all the work of the Cappadocian Hatti, and against their affording good evidence of a permanent occupation of Syria by the latter. One must bear in mind what the relation of Oriental conquest to Oriental empire has usually been. The result of the former has seldom been more than acknowledgment of suzerainty by peoples and kings, who were left to subsist in other respects as they subsisted before. Because Subbiluliuma and Hattusil conquered Mitani or came south to Kadesh, it does not follow in the least that Mitani or Kadesh were occupied by the Cappadocians in permanence; nor does it follow that the Khatti of the Assyrian records were the actual Cappadocian people of that name. But it does appear that, either as a result of those invasions or more probably owing to close ethnic relations and affinities from early times, Cappadocian civilization occupied North Syria more permanently than did the Cappadocians.

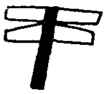
If there is no reason to suppose that the Syrian conquests of Subbiluliuma and Hattusil resulted in any change of the centre of Cappadocian power, there is no more reason to imagine that there was any decline of the Hatti in Anatolia after Hattusil's time. It is fairly certain that Phrygia had long been subject to them, and likely that it continued to be so for some centuries. There is no warrant in Greek literature (for example, none in Homer) for dating the rise of an independent Phrygian dynasty before about 1000 B.C., and it is probable that none arose before that associated with the names Gordius and Midas, which seems to have been due to a new racial element coming in from the north-west. The inscriptions in "Phrygian" characters found by Chantre at Huyuk north-east of Boghaz Koi, and one in the same character, but less certainly in the Phrygian language, found recently at Tyana, may indicate that when this dynasty was established, it reversed the old relation to Cappadocia, and in the day of the latter's weakness became its overlord. About Lydia it is less safe to surmise. If at the acme of Cappadocian power it too had been a Hatti satrapy, it is probable that it was so only in the loosest Oriental sense, *i.e.*, it did no more than acknowledge Cappadocian suzerainty and pay tribute. There is some reason for thinking that at a later time, when the Phrygian dynasty was flourishing, Lydia accepted a similar relation to Phrygia; and it can hardly be a mere coincidence that the violent death of the last Midas synchronized so nearly with the full establishment of the Mermnad dynasty.

ANTHROPOLOGICAL NOTES ON THE BANGALA OF THE UPPER CONGO RIVER.

(Part II.)[1]

By The Rev. John H. Weeks.

XXIII. Writing.



When first we went to live among the Bangala there were no methods of writing in existence. When a message of any importance was sent, the sender would give the messenger a piece of plantain leaf having the mid-rib of the leaf about 6 inches long, and four flaps or wings to it—two on each side thus :— This the messenger would carry and deliver with the message.[2] With less important messages, tokens were sent such as the sender's knife, or pipe, or spear, etc.; these of course were returned by the messenger. If a woman was sent with a message, and was given a spear as a token, she would not hold it in the ordinary way by the haft, as no woman was allowed to carry or handle a spear, but would tie a string to the spear and drag it after her. Ordinary messages were sent without any tokens.

A token was given by a debtor to a creditor on contraction of a debt. It might be a piece of old iron, or a bit of broken saucepan, or anything else to hand that would not rot or burn, or be destroyed by white ants, etc. The token would be of no intrinsic value, but would be given in the presence of witnesses, and would be held by the creditor until the debt was paid. If the debtor died without paying, the creditor would take the token to the heir, witnesses would be called and on the heir acknowledging the debt the man would again hold the token until redeemed. In the event of the creditor dying he would have told his heir of the tokens, against whom they were held and the amounts due on each. It would be among the first duties of an heir to have these tokens properly acknowledged as soon after the death of the first holder of them as possible. Very often the only wealth a man has to pass on are these tokens representing money owed to him, consequently it is necessary to have them properly and frequently ratified before witnesses.

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[1] For Part I, see *supra*, p. 97.

[2] The Mundenge plantain leaf token generally sent by a woman to someone by whom she wishes to be bought, the acceptance of it is a promise to buy or marry her. Ndanga is the word used for an ordinary token sent with a message or given on contraction of a debt. Bolonga = token in recognition of relationship. This token is generally a slave and 1,000 brass rods, or some valuable article, given to a brother in recognition of his rights over the giver's wife, who is the sister of the receiver of Bolonga, and her only guardian.

Knots were often used in counting and keeping accounts, and also notches cut in sticks. Sometimes a piece of twine was knotted and preserved, and sometimes only the fringe of the cloth. Notches were sometimes cut on a small stick and sometimes on the post of the house. The months that one worked would be cut on a stick, but a notch would be made on a house post for every elephant and hippopotamus killed. Very often they would put a secret mark of ownership on an article, but this was generally a simple notch in a certain place known only to the owner. A certain toe would be cut off a fowl's foot, or certain feathers cut to denote ownership. I have even seen all the toes cut off for this purpose. What are often taken to be charms and fetishes in a native's farm are simply signs to mark off the boundary of one farm from another.

XXIV. ASTRONOMY.

Among the Bangala, living as they do so near the equator (1° 30′ north), there are no seasons, not even a dry or rainy season. As the river rises and falls with fair regularity they have names to denote the time of flood twice a year, May and November—which was called *eyo ya mpela*=season of high water. They have the word for moon *sanja* and also *yeli.* The word *butu* was used for sun and also for day, sunshine and light. They had no idea of the movements of the sun, moon and stars.

They had names for different times during the night and day as follows: 2 a.m. *nsusu ya bifo*=the lying fowl; 3 a.m. *nkuku-mpembe ya bifo*=the lying bird. These two were thus named because they falsely heralded the dawn which was not due until later. 4 a.m. *nsusu ya bona bo*=the first fowl. 4 to 5 a.m. *butu bobeti*= the sun is near. 5 a.m. *mikela mia butu.* 5.30 to 6 a.m. *lunzanza* or *njumo*=the dawn. 6 a.m. *butu boye*=the sun is come. 6.15 to 7 a.m. *ntete.* 12 noon, *njanga.* 2 to 3 p.m. *njanga bomuna.* 3 to 4 p.m. *mwekwa.* 6 p.m. *ekingele nsusu*=when the fowls go in, or *butu bwingeli*=the sun enters, or *butu bwindi*=the sun darkens. 6.30 p.m. *yoiyoi*=twilight finishes. 11 to 12 p.m. *mobanje mwawi*=one set of ribs or one side of a person, meaning that a person turns from lying on one side over on to the other. 12 midnight, *nkabo ibale*=second division or second half, or *ejeketani.* As indefinite terms there were *butu*=day; *ntongo*=morning; *njanga bomuna*= afternoon, and *eloli*=evening; night=*mokolo* and *butu.*

Stars.—Large star was *moti;* bright star *motondolo;* the morning star *mokwete* and *yombi*; Venus *mwali wa sanja*=wife of the moon; shooting star *yanji*, this same word is also used for a newly made or fetish fire; a cluster of stars (Pleiades) *lingondo nsamba*=crowd of young women; the milky way, *njela ya mpela na elanga* =the road of floods and drought. Both on the lower and upper river the natives connect the "milky way" with the abundance and scarcity of rains; they say that when the "milky way" is bright, clear and well seen that there will be plenty of rain. Set of five stars thus ⁙ in the constellation Lepus, *kole*. They say these form a man (see under Agriculture). Three stars forming head and arms of *kole* are called *limpunungu mbuma ya bonsombo.* Three bright stars on Orion's belt *nkai iatu* = three paddlers. Star, general name *mwajekolo*, plural *bajekolo.* There is a name for evening star *mosolampande.* Five stars together in Orion *liboke ja nkake* = bundle of thunder or lightning.

While at Monsembe there was one total eclipse of the moon, but they had no name for such a phenomenon, and regarded it with little or no interest when I pointed it out to them.

There is a legend that the moon was once a python and made a road for itself on the earth. Some adventurous hunters trapped it, but on noticing that there was no more moonlight they let it go, whereupon it sprang into the sky and never again returned to the earth. When there is no moon some say that the python has gone on a long journey, and others say that it dies every month. There is much shouting and gesticulation on the appearance of a new moon. Those who have enjoyed good health ask that it may be continued; and those who have been sick ascribe their complaint to the coming of the new moon, and ask it to take away their bad health and give them good health in its place.

Here, as on the Lower Congo, many believe that the sun returns from the west to the east during the night to be ready to rise in the morning. An eclipse is caused by the sun or moon hiding itself. They thought that the stars were a species of large fireflies that formerly existed on the earth, but have now gone into space; and shooting stars, and comets are signs that a great chief has died.

XXV. ARITHMETIC.

The numerals from 1 to 5 are declinable. The letter in brackets is the particle that changes according to the class of the noun used, *e.g.*, two persons would be *batu* (*ba*) *bale* = persons two, but two cloths would be *bilamba* (*bi*) *bale* = cloths two.

The numerals are :—1 (*y*) *awi*; 2 (*i*) *bale*; 3 (*i*) *atu*; 4 (*i*) *ne*; 5 (*i*) *tanu*; (6) *motoba*; (7) *nsambu*; (8) *mwambi*; (9) *libwa*; (10) *jumu* or *mokangu mwawi* = one tying; (11) *jumu na* (*y*) *awi*; (12) *jumu na* (*i*) *bale*; (20) *mikangu mibale*; (21) *mikangu mibale na* (*y*) *awi*; (30) *mikangu miatu*; (40) *mikangu mine*; (50) *mikangu mitanu*; (60) *mikangu motoba*; (70) *mikangu nsambu*; (80) *mikangu mwambi*; (90) *mikangu libwa*; (100) *nkama* or *munkama*; (200) *minkama mibale*; (1,000) *nkutu yawi*; (2,000) *nkutu ibale*; (10,000) *mokoko*; (20,000) *mikoko mibale.*

The meaning of *mikangu mibale* (20) is, two tyings. 10 was very often called *mokangu mwawi* = one tying, from Kanga = to tie. It was the custom of the natives to roll their 15-inch brass rods (the currency) into a series of rings about 1¼ inches diameter, and these they would run one on another, like split rings, until there were ten linked together, and they would call that *mokangu mwawi* = one tying = 10.

The ordinal numerals are:—

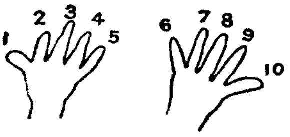
Motu wa bo = The person who is one, or the first person.
„ „ *babale* = „ „ „ „ two „ „ second person.
„ „ *batatu* = „ „ „ „ three „ „ third „
„ „ *bane* = „ „ „ „ four „ „ fourth „
„ „ *batanu* = „ „ „ „ five „ „ fifth „
„ „ *motoba* = „ „ „ „ six „ „ sixth „
„ „ *mikangu mibale na wawi* = twenty-first person.

To use a word of another class we will take *elamba* = cloth.

Elamba ya bo = the cloth that is one, or the first cloth.
„ „ *bibale* = „ „ „ two „ second cloth.
„ „ *biatu* = „ „ „ three „ third „
„ „ *bine* = „ „ „ four „ fourth „
„ „ *bitanu* = „ „ „ five „ fifth „
„ „ *motoba* = „ „ „ six „ sixth „

Elamba ya mikangu miatu na bibale = the cloth that is thirty and two = the 32nd cloth.

The fingers are constantly used in counting. If a man wants to say thirty-four, he would say, *mikangu* (tyings) and hold up three fingers for those to whom he was speaking to say, *miatu* (three) *na* = and, hold four fingers for them to say (*i*) *ne* (four). The letter in brackets would change according to noun understood. By this means, they ensure their hearers following and understanding them.



The way in which they use their fingers is somewhat irregular, and for the sake of clearness I draw two hands and number the fingers 1 to 10—1 to 5 left hand, and 6 to 10 right hand. 1 and 10 are the thumbs. The right hand is used more than the left.

One is expressed by doubling 6, 7, 8, and putting 10 over them, thus leaving 9, the index finger standing alone.

Two, by doubling down 6 to 7 and putting 10 over them, thus leaving 8 and 9 standing up.

Three, by doubling 9 down, and putting 10 over it, leaving 6, 7, and 8 standing.

Four, by putting 10 at the bottom of the division between 7 and 8, that causes 6 and 7 to come forward a little so the hand is turned about that the two sets of two fingers may be seen.

Five, the whole of the fingers of the right hand are left standing with the palm turned towards the person to whom you are speaking.

Six, by doubling down 2 on the left hand, and putting 1 over it so leaving 3, 4, and 5, standing, and doubling down 9 on the right hand, and putting 10 over it so leaving 6, 7, and 8, standing thus, making two sets of three fingers.

Seven, the same as 4 with the right hand, and doubling down 2 on the left hand and putting 1 over it, thus making a 4 and a 3.

Eight, by working the right hand as under 4, and putting 1 at the bottom of the division between 3 and 4 and twisting the hands about so that the four sets of two fingers are seen.

Nine, by holding up the fingers of the right hand as under 5, and putting 1 between 3 and 4 and twisting the left hand about.

Ten, by holding up all the fingers of the two hands with the palms towards the auditors, and every folding down of the fingers, and re-spreading them means another 10. Second and more frequent way—by holding out the fist of the right hand, and every decided shake of the fist means another ten. Third, by clapping the hands together, and every clap stands for 10. The shake of the fist is the most frequent way.

Eleven, by shaking the right fist, and holding up one finger as described under one.

Twelve, by shaking the right fist, and holding up two fingers as described under two.

The toes are very rarely used in counting. I have only seen them used when counting 20,000, and then the man stretched down and put the fingers of both hands on the toes of both of his feet and said: *mikoko mibale* = 20,000.

For addition and subtraction under 10 they would use their fingers, but for higher numbers they would use palm nuts or any suitable things to hand. This was not because they were incapable of adding and subtracting mentally, but because they were always so suspicious of each other that they wanted an ocular proof that the sum was right, and that neither was getting the better of the other. Later on when they knew their figures and could run over their arithmetical tables they would accept each other's sums, but in making a transaction with an uneducated person they would have to resort to the fingers or the palm-nuts for counting.

They always counted by five and tens, *e.g.*, if a person wanted to make up 26 he would take 3, and then 2 put with the 3, and push that 5 on one side, and then make another 5 in the same way and then put the two fives together making ten, and then make two more fives, and put those together, keeping, however, the tens separate, then another five would be made by the 3 and 2 process, and at last 1 put down. Then the two tens would be counted, and the five, and lastly the one.

XXVI. Currency and Value, Weights and Measures.

Men slaves were sold at 500 to 600 brass rods, worth about 6*s*. 6*d*. per hundred. Women slaves were worth from 2,000 to 2,500 brass rods on account of their farm work, and child-bearing capacity. A free woman taken as wife would cost as much as a slave woman, and many articles besides, as an axe, matchet, blanket, hoe, knives, looking glass, etc., which would be given as presents to the members of the free woman's family. A goat in 1890 was sold for 60 to 100 rods. Spears and knives were sold at 10 to 200 rods according to size and ornamentation. Brass rods at the time of which I am writing (1890) were 15 inches long and ¼ inch thick, and were well established as the currency—everything having a fixed price in brass rods. An article would be a little more or a little less in price as it was above or below par value, *i.e.*, as it was larger or smaller, better or worse than the normal, standard article. Brass rods cost us about 3*s.* per hundred invoice price, but were worth double by the time we had paid for transport to the Upper Congo. Fines and compensations were stated in brass rods, and were paid in brass rods, or their equivalent in trade goods, fowls, goats, or slaves. For example: if a man had to pay a fine for adultery of 100 brass rods (the usual amount), he would pay say, 15 in rods and some trade goods; the value of each article would be known, so they would not haggle over their prices; but if he brought a spear, a native knife, and a fowl, they would haggle over these to settle their worth—one praising the article to sell it as dearly as possible, the other depreciating it to get it as cheaply as he could.

They have names to denote the position of the sun from sunrise to sunset, and also for various parts of the night (see section under Astronomy).

If you were to ask how far it was from one place to another, they would reply that you would have to sleep so many nights on the journey. Say the journey would occupy four and a half days. They would say, "You will have to sleep four nights on the way, and on the day you arrive you will reach the place at midday." Or if it were three-quarters of a day's journey, they would say: "You start at sunrise, and reach the place by the time the sun is there," pointing to where the sun will be at about 3 p.m. A four hours' journey is stated in the same way: "Start at sunrise and you will reach there when the sun is so high," pointing to where the sun will be at 10 a.m. For shorter distances and times—say half an hour, three-quarters of an hour, one hour, one and a half hours, they use the word *moluka* = a paddling. For instance, half an hour will be "two paddlings," three-quarters of an hour "three paddlings," and so on. It is their custom when travelling in a canoe for one-half the crew to dip their paddles on one side of the canoe, and the other half to dip theirs on the other side. They paddle thus for fifteen to twenty minutes, and then to rest their muscles that have been strained in paddling on one side of the canoe, they all change over to the opposite sides and paddle on that side for fifteen to twenty minutes. I have again and again timed them, and found that they are so regular in their changing that they were never less than fifteen minutes and never more than twenty minutes. They call the time between the changes a paddling (*moluka*), and in dealing with short distances and times they say, "It will be one, two, three, or more paddlings," *i.e.*, a quarter, half, or three-quarters of an hour and so on.

If they desired to describe a shorter time or distance than that shown by the use of the word "a paddling," it was done by saying it was or will be as long as it takes to go from such a place to such a place or from so and so's house to so and so's house, mentioning two well known places or houses. To measure they used their arms stretched to their utmost extent as equal to a fathom, a half that would be a half fathom, hence they would say a house or a canoe was so many fathoms long. They have no word for a quarter or three-quarters of a fathom, so anything over a half fathom would be said to be *less than a fathom*, and anything under a half-fathom would be said to be *less than half a fathom*. *Loboko*=arm, hence fathom. *Maboko*=arm's fathom. *Loboko Lawi*=one fathom. *Maboko Mabale*=two fathoms.

There were no means of measuring liquids. In speaking about a quantity, say of sugar cane wine, they would hold their hands so as to show the size of the saucepan, jar, or bottle. Then jars of certain shapes and makes had their own special names (*see* under Pottery), and to mention a certain jar by its name was equal to stating the quantity. In dealing out sugar-cane wine a dipper was used, and no matter how large the drinking vessel taken to the carouse might be, only two or three dippers' full were put in each. When selling palm oil, a univalve snail shell was used as a measure, but of course these varied in size. To ask for and expect interest on a loan was very strongly condemned by all; but if a person in difficulty promised 150 rods in return for the loan of 100, nothing was said, as it was not regarded as interest but as a gift for help in difficulty. Of course no one had rods to spare until such a promise was given.

They had no means of weighing. A thing was very light, or light; very heavy, or heavy, or "more than I could lift," or "more than so many men could lift."

XXVII. TRADE.

In the old days iron ore was brought up the Lulanga River, smelted at Monsembe and made into spear heads, knives of various shapes, hoes, axes, tools for making canoes, such as gouges, and needles for sewing their cloths. A blacksmith was called *motuli* from the verb *tula*, to do smithing. Canoes, paddles, and stools were made by various men. String, rope, and twine were spun and sold to those who needed them. String fish nets, and string hunting nets were also made and sold. Men generally made their own bamboo fish traps. Some men who were expert builders would build houses for others. Fish was caught, dried, and sold. Hippopotami were hunted and killed, and their flesh, after being well dried, became an article of barter. All the above things were used in commerce between person and person, and town and town, and even between districts.

The women made mats of various sizes and shapes, also saucepans, and jars, and dresses as described in a previous section. The farms belonged to the women, and they would help the men in fishing, in making sugar cane wine, palm oil, and sometimes in the lighter parts of house building.

Slaves worked for their master at anything he set them to do. A wise master would study the aptitudes of his slaves, and allow them to follow their various inclinations; thus, some would hunt, some go on trading expeditions, others do smithing, etc. The slave gave his master a share of his earnings and profits. All that the slave earned or gained belonged to the master, and some masters would take a larger proportion than others. Female slaves were bought and given to the male slaves of the same master so as to induce them to settle down contentedly in their master's town. The children born of such marriages belonged to the master and were slaves like their parents. The produce from a farm worked by a slave would belong to her for the feeding of her husband and children.

Labour was not regarded as a degradation, and those who were skilful in smithing, canoe making, etc., not only became very wealthy, but were regarded with great respect on account of their skill.

Boys liked to accompany their fathers on fishing and trading expeditions, and girls went with their mothers to the farms as soon as they could walk freely, toy hoes were given to them to play with while on the farm. It was a change to them and as such they enjoyed it. Later on they had to render such assistance as they were able to their parents.

Among the Bangala there were no markets, and no market places. If a person had anything for sale he would walk through the town calling out its name as hawkers do in London. Sometimes a person caught a fish that was tabu to him, and he would hawk it through the town to try and exchange it for another.

In their business transactions credit was frequently given, and for such credit no interest was given or expected. To recover a debt a creditor would first dun the debtor until he was tired, then he would break the pots and saucepans and anything he found outside the debtor's house, and tell him that on a certain day he would call again for the money. If the debtor then failed to pay, the creditor would call a few of his friends together and would lie in ambush near the farms until the wife of the debtor came along, when they would pounce upon her and take her to their town. The woman would be lightly tied and well treated. The debtor would hear of the capture, and, supposing he owed 1,000 brass rods, he would get the money together as soon as possible and take it and 500 extra rods, which he would have to pay his creditor to compensate himself and friends for the trouble of tying up the woman and cost of feeding her. If the debt is for 1,000 rods the creditor may tie up one woman, but if he ties up two he puts himself in the wrong, for the value of one woman covers the debt and expenses. If the debt is for 3,000 or 4,000 rods the creditor may capture two women, and so on, in proportion to the debt. If the debt is not paid the creditor can keep the woman or women as his own wives, if they are free women, or keep them or sell them if they are slave women. If a man has no wives, then a member or members of his family may be tied up on the same principle as shown above. Sometimes a creditor would seize people of the same town as his debtor, but this was rarely done except in cases of hostility between towns.

There was a trade language in use, but when a middle-man was employed the seller paid him a small or large fee according to the amount of business.

XXVIII. PROPERTY.

The land surrounding a town belongs to the people who live in the town. Certain landmarks as streams, forests, etc., are agreed upon as boundaries. If there is a town near the boundary the land would reach up to the boundary of the next town, but if the town was some distance from the forest boundary, then the ground between the boundaries would be neutral land in which the folk of both towns could hunt, cut timber, etc., as they pleased. Within the boundary the people of the town were free to make their farms and build their houses where they liked, provided the land was not already occupied by someone else. Priority of occupation is the only title to a piece of land. There is no such thing as unclaimed land. It is either within the boundary and claimed by the town living on it, or it is between the boundaries, and is for the benefit of the near towns as neutral hunting ground, but no one town could sell that land without the consent of other towns which are mutually benefited by it.

If a slave belonging to a man of the town cultivated a piece of land belonging to her master's town she would have full rights over it, and her master would see that those rights were not infringed. Of course she could not sell the ground, but she could sell the farm as a farm and the stuff growing on it, and the person who bought the "stuff" could continue to cultivate that piece of land if she were an inhabitant of the town owning the land, if not, she could let the produce mature there, and when she had removed the said produce, the land would revert again to the town.

Men, women and children could own land that they had cleared for farms; and could own slaves that they had bought or inherited. I have known a case in which a slave owned a slave, and that slave—the slave of another—owned a slave also. When we bought a piece of land in 1890, the price we gave was divided among the headmen in the town according to their importance, and they gave a part of their shares to their followers—members of their family and folk attached to their family other than slaves. The State told us we could take the plot of land we wanted for nothing from the natives, but we recognised the native rights to their land, and thus paid them compensation for relinquishing those rights to us. Afterwards we took out title deeds from the State and satisfied their demands also. If we had not compensated the natives, they would have regarded us as interlopers who had stolen their land, and I think their view would have been the right one.

Slaves could be sold by their owner or by the family owning them. They could also be killed by their owner, and no one would prosecute him for murder. He had simply destroyed his own property. Slaves were, as a rule, treated well, for they could easily run away, and then the owner would lose the money invested in them. It was to the owner's interest to look properly after them—to house them, to provide wives or husbands, and to maintain their rights as members of the community. I have known a few slaves to run away, but I have known more than a few to be treated like members of the family. The better the slaves were treated the more secure were their masters of their services and value.

The river running by the land belonging to a town was the joint property of the town's folk for fishing purposes. People of other towns were not allowed to fish there. There were, however, large tracks of neutral water where all could fish as they pleased, provided no one else was fishing there.

The first-fruit of game and fish that a lad killed would be given to the lad's mother, or, if she were dead, to his mother's sister or the next of kin. The first-fruit of a farm was given in the same way by a girl to her mother, or her aunt.

For the manner in which debts were recovered, see previous section, No. XXVII.

When a debtor dies, his heir—*i.e.*, his eldest son—has to take over his debts and any other obligation. He would take over the debts owed to his father, as well as those owed by his father. The heir who took the estate of the deceased would have to pay his debts, even if they amounted to more than the estate was worth.

Money was lent and borrowed among friends and relatives and no interest charged. Of strangers 50 per cent. to 100 per cent. was often demanded. They had a system of pawning their children. A man in difficulties took a son and pawned him to a headman for some 500 or 600 brass rods. The headman lending the money would hold the pledge until he was redeemed by payment of the sum lent, and a stipulated amount in addition. Such a pledge had to be fed, etc., by the man lending the money, and he might not sell him like a slave since he could be redeemed any day. Such pawns are regarded as free men, and are never treated as slaves. They give their services to the man who holds them in pawn, and fight for him. Such pawns never run away, as the whole of their family connections are in the neighbourhood.

The palm trees, and the *nsfau* (*canuarensis*) wherever found are never without owners. The proprietary rights in these trees are by inheritance, or by planting them, and the rights in them are handed on from father to son in the proper line of heirship. When we bought the land at Monsembe we bought the trees on it, but not the houses, as they were removable.

Slaves could only hold property by permission of the master, and if the latter required help at any time he could take his slave's goods, but a wise master would refrain from doing this without first talking the matter over with his slave, and promising to repay him at some future time. A wise slave would readily give or lend his personal property to his master.

XXIX. INHERITANCE.

The eldest son takes the title of his father, and also inherits a larger proportion of the property than his brothers. The amount taken would depend on the number of sons. If there were five sons then the eldest would take two-fifths, the second son one-fifth, and the other three sons the remaining two-fifths equally shared; if there were three sons the eldest would take a half, the second son two-thirds of the remaining half, and the last son the rest. The property of a woman would go to her husband, and failing him to her sons. The sons by a free woman would take priority over those by a slave wife.

Sons inherit their father's widows, and in sharing them out, it would be arranged for a son not to have his own mother as a part of his share. Widows do not inherit any part of the estate of their deceased husbands as they themselves form a part of that estate. The son, on inheriting his father's widows, can either keep them as his wives, or if they are slave women he can sell them as slaves, and if they are free women he can arrange for them to marry someone else and keep the marriage money paid for them by their new husbands.

Failing direct male heirs the sister takes the estate, but would give the wives to some of her near of kin, such as male cousins, etc., but should there be no direct male and female heirs, the family clan would take the estate and divide it among themselves. A person with no family would soon become a slave, as a single individual without family could not stand alone. Some charge would be brought against him and being without family be would not be able to defend himself, and he would either be reduced to ordinary slavery or would have to attach himself to some other family and his estate would be taken by them.

There is no adoption into a family, and no " blood brother " can inherit, but a slave who has been long in the family, and has behaved faithfully to the interests of the deceased, would be set free, and would receive a portion out of the deceased's estate.

When there are male heirs and the estate is divided up, the sister (or sisters) takes as her portion the woman or women who were paid as her marriage portion by her husband and this woman or women she gives to her brother, by the same mother, as his wives, so that that brother gets his share of the estate as a son, and also the marriage portion of one or two women (if still alive) given for his sister. In recognition of this the gift brother makes frequent presents of sugar-cane wine and meat to his sister's husband, as this increment to his wealth has come indirectly from him.

Sometimes small amounts were left by will in the following manner:—A token was given in the presence of witnesses, and the article or articles named. The eldest son was then informed of the token, the person to whom it was given and the nature of the goods bequeathed. After the testator's death the token was taken to the eldest son and the property handed over in the presence of witnesses.

The following case was submitted to me for arbitration on September 11th, 1899. The plaintiff said that many years ago his brother was sick, and went to defendant's father's town for medicine. When he was dying the sick man took a long flat pod and struck his "doctor" friend across the ankle. For this the "doctor" demanded from the family of his deceased patient, a slave, three pots of sugar cane wine and two spears, and some brass rods. The plaintiff paid the goods at the time, but now he wished to have them returned on the ground that:—1. No medicine was made and given to his brother; and 2. That since white people had come he could see that it was stupid to follow such customs.

The defendant (son of the above "doctor") acknowledged the debt on behalf of his father who was dead. He admitted that the above statement was correct, and that the above custom was general in this part of the Congo, and was recognized by all. It seemed to be one way of making a codicil to a will, or one way of leaving property to an outsider who legally did not inherit anything, but on account of this technical assault had a legal claim for the above compensation to be paid out of deceased's estate. I told them that I could not interfere with palavers that happened so long ago, but in future when a man was dying and wanted to leave an outsider any of his property he was to call some of his family and tell them to give so and so certain things after his death. Only such a bequest would be recognized. They agreed and went away satisfied.

Chiefs in the Monsembe district were simply headmen, by that I mean heads of families, and only had power and influence commensurate with the size of their family, consequently they received no benefit from the death of anyone except where they inherited in the ordinary way. Uncles and heads of families would act as guardians for minors left with property, and they would have to render a proper account of the amount received when the minor became old enough to look after himself. If a minor inherited a "palaver" from his father, the guardian could not "talk" it, but the matter had to wait over until the minor was old enough to conduct the affair himself. I have known cases to be postponed, for this reason, for fifteen and twenty years.

Guardians could use the women left to their wards as their own wives, and could trade with the goods without paying interest; but when the ward reached his majority he could demand the right number of women from his guardian, and the exact amount of goods left in his charge. If the guardian died in the meantime, his heir would have to take the privileges and obligations of the guardianship, and reserve out of his inherited estate the amount due to his ward.

XXX. SLAVERY.

Both male and female slaves were bought and sold. They numbered about 25 per cent. of the population. Some were born slaves, others were captured for debt, a few captured in war, and some had sold themselves to pay their debts, incurred by adultery or by the loss of a lawsuit the expenses of which they could not meet. Some were sold to pay family debts. It was also the custom for the man to give his son in pawn to raise a loan. The status of a pawn was somewhat higher than that of a slave. He might be redeemed at any moment, and thus become again a free person. The one who held him in pawn could not sell him, nor get rid of him to anyone without the consent of the pawner, for the family might arrive with the redemption money at any time, and if the pawn could not be produced the holder would have to pay the pawner three or four times the value of the pawn.

Masters had full power of life and death over their slaves, and I have known one or two cases of masters killing their slaves in anger, but public opinion condemned such masters as fools for destroying their own property.

There were no absolutely independent men and women, apart from chiefs or headmen. All the rest were attached to headmen as relatives, slaves, pawns, or by a voluntary surrender of themselves to a chief. If the family of a free man died off, or became very weak—too weak to defend itself against the aggressiveness of the other families in the town, such a free man would go and attach himself (and any relatives he might have left) to the headman of any one of the stronger families he might select. He then became a member of that family. Their quarrels were his, and his quarrels were theirs. His position was that of a free man owing fealty to the head of his adopted family. He was never treated as a slave. If he had tried to stand alone some quarrel would have been picked with him, and eventually he would have become a slave. A slave was called *mombo,* from *omba,* to buy; a pawn was *ndanga* = token; a free man who attached himself to a chief was called *ejalinya,* perhaps from *jala* = to live at.

A slave boy was not permitted to use camwood powder and oil on his body, but, should he please his master one day by bringing him a present of fish, meat, cloth or brass rods worthy of his acceptance, the master on accepting the offering rubbed his hands over his slave's face and said: "Your skin is very bad. Why do you not rub it with camwood powder and oil?" From that time he is allowed to use that cosmetic so prized by all the natives.

[*Re* the marrying of slaves and the status of their children see previous sections.]

As all that a slave earned belonged to his master, it was theoretically impossible for him to redeem himself. I know one case of a man ransoming himself. He became while a slave a famous witch-doctor and thus grew wealthy; he was allowed, perhaps through fear of his power as a witch-doctor, to amass wealth and to redeem himself, but he had to give fifteen slaves or their equivalent in goods as the price of his own redemption. As a witch-doctor and a wealthy man he was feared and respected, and his children took the position of a free man's children.

As a rule the best dressed men in the town were the slaves, and the worst dressed men the masters. Of course, on special occasions, the masters would wear plenty of good cloth, and decorate their bodies with powdered camwood and oil. A slave could dress his hair like a free man, but if he had a beard he must leave it loose, and not plait it. Only free men could plait their beards. A master was responsible for the actions of his slaves. I remember a case in 1892 when a slave attempted the life of a headman in his master's town. His attempt failed and he escaped to a very distant town. The master was tied up, killed, and eaten. It is probable that if the master had been a more influential man than he was, some other way would have been found, as the attempt failed. Probably the payment of a very heavy fine would have met the case.

While theoretically a master was responsible for a slave's debts, yet he would repudiate them on the ground that the lender had no right to lend to a slave without first ascertaining whether the master would be responsible for the payment or not.

A slave used to be killed, and his body put in the grave as a pillow for his master's head. Slaves were sometimes killed and sent with messages to the former influential heads of the families.

Slaves would clear the virgin bush and forest land for their master's wives to cultivate as farms. This was not compulsory, but the women would cook extra food, and take more trouble over cooking it for those who thus helped them. The slaves were expected to paddle their master, to accompany him as followers if he went overland to any town, to build his houses, fight for him, and go trading expeditions either with him, or on his behalf. The more wives and slaves a man had the more famous and influential he was in his district. If a slave worked for a white man, the master would expect a large proportion of his pay. Hence a slave would draw as much on account as possible, so that the balance at the end of his contract being small the master would not take so much as he would if he had not drawn on account during the year, or had the whole of his pay to take when he had finished his twelve or twenty-four months. The master had to house his slave, feed him, clothe him, look after him in sickness, protect and help him in trouble, and find a wife for him when old enough to marry. Sometimes one slave wife would be allotted to three or four slaves until such time as the master could buy one for each of them. Their children were slaves and belonged to their master. A slave might be sold at any moment to pay his master's debts, and so be separated from his wife and children, or he might be killed to accompany his deceased master, or to carry a message to his master's ancestor. Except for these two great disabilities, his lot was not hard; he cost too much, and escape was too easy to other masters in distant towns, for ill-treatment to be prudent.

XXXI. GOVERNMENT.

Among the Bangala there were no great paramount chiefs. Each town had its set of families and each family had its head called *mata* who was the eldest son and who as eldest son took the title and the largest share of the estate. *Mata* might be a man with wives, slaves, and followers numbering 200 or 300 or more, or *mata* might not be able to muster fifteen persons in all, yet as head of his family he would have the same title (*mata*) as the more powerful ones. *Mboka* (a town, village), might consist of twenty or fifty different families living together and numbering 3,000 or 4,000 people, or it might mean only one family or two families not numbering more than twenty or thirty persons all told. It did not matter how large or how small the *Mboka* was, it was independent, self-governing and recognized no overlord. The particular spot where each family lived in the town was also called *Mboka*, so the word had a restricted meaning as well as a wider one. In speaking of the whole cluster of families living at a certain place, Monsembe, Bombilinga, etc., the word *Mboka* was used, but when, in either of the places, one spoke of going to *Mboka* so and so, as in London one speaks of going to Camberwell or Camden Town, or Brixton. Thus there is the head of the family whose word is law to that family and his own section of the town. Then the heads of the families met together to talk over town affairs, and to decide on any course of action. Some were heads of larger families than others, and were richer than others. Such men necessarily had more influence, and their words carried greater weight than the words of poorer and smaller men. Sometimes a man with a lóud voice and dominating will would get weaker men to follow him.

In a district there was generally a chief who was appointed by the towns of the district to act as judge in all important matters—at palavers between town and town, and family and family. At the time of his appointment the heads of all the families living in the district who wished to come under his jurisdiction cut down his plantains and banana trees. This action gave him a *casus belli* against all the towns that acknowledged him as judge. By the cutting down of his plantains he became the offended party, and as such had the right of aggressive action against the offenders. Now it was the custom that the offending town must not go to fight the offended town, but must wait for the offended ones to attack them—the offenders. No subsequent quarrel could be taken up until the first was settled. Hence the above chief appointed as judge might enrage a town by his decision, and might call on the other towns to help him enforce his verdict, yet the said town could not attack the chief judge's town because of the old standing palaver of cutting down his plantains and bananas. This ensured the chief judge's immunity from quarrels with people who did not like his decisions, and as there was no fear of such quarrels there was a guarantee of a certain amount of justice and impartiality in the decisions given. He was paid to act as judge by those who needed his services, and this pay refunded his temporary loss from his destroyed plantains and bananas.

There was an unwritten code of laws dealing with most civil and criminal offences, and by these the heads of the families judged each other, and the members of their families.

Stanley in his books on the Congo uses many phrases about Mata Bwiki of Iboko or Diboko (now Nouvelles Anvers) that favour the idea that he was an overlord or lord paramount of the district, but that was not so. *Mata Bwiki* simply means Headman Plenty, or Plentifulness. Stanley, I think, gives it as meaning: "Lord of many guns." His name then should have been: *Monanga wa bibau biki*= Lord of guns many. Stanley on his memorable journey happened to land at the landing place belonging to Bwiki's family, and he as the head of the family took the lead in Stanley's receptions. If Stanley had landed half a mile above or half a mile below where he actually did land, he might never have heard of Mata Bwiki.

The word *Monanga* was used in a restricted way as meaning a free born person either male or female. It also was used as a term of respect and meant lord, and frequently was equivalent to Mr., Monsieur, etc. It would be attached to the names of any man to whom and of whom you wished to speak with deference and respect. We were addressed as Monanga, but never as Mata, and many of the more wealthy natives who were not Mata were spoken of as Monanga, and all who were entitled to the *Mata* were also entitled to *Monanga.*

XXXII. Justice and Crimes.

The following incident which I wrote eighteen years ago will illustrate the working of blood revenge:—

December 20th, 1890.—About nine months ago eight brothers lived at Bonjoko—a town three miles below Monsembe. For some reason or other their slaves beat to death the chief of that town with sticks. As slave owners are responsible for the actions of their slaves, the brothers had to fly for their lives. One of the brothers, however, was killed before they fled, and the others came to Monsembe and built a set of houses, and placed a strong palisade round them. They lived thus for nine months in apparent security. The family of the murdered chief did not forget, but waited their time and opportunity.

On Friday last a Monsembe slave fell from a palm tree, and was picked up dead. All Friday night and Saturday the other slaves of the town danced and sang at the funeral festivities of the dead man, and during the noise of their crying and chanting dirges, some Bonjoko people entered the town, rushed into the stockade and killed one of the brothers, cut open the head of another, and chased a third into the bush and there speared him.

If only one brother had been killed the feud would have ended, and reconciliation would have taken place between the two families; but in affairs of this kind they have a credit and debit side, *i.e.*, the chief of Bonjoko was a great man, so it needed two deaths to expiate his. The Bonjoko people had killed one brother before he fled, and they only desired to kill one other brother to square the account, but being divided in their attack into two or three parties, acting independently, neither knew what the other party had done, so two brothers were killed instead of one. Thus the Bonjoko family owes one life to the brothers, who will not rest until they have it, but if in the fray they take two lives, hostilities will be continued until there is a clear balance sheet. The remnant of the brothers can now move about freely, and do not need any longer to live enclosed in the palisade. It is the turn of the other family to go in fear of their lives.

It has leaked out that the headmen of this town (Monsembe) had little or no sympathy with the brothers, and had in fact received 1,000 brass rods not to oppose the Bonjoko family when they came for vengeance, although they had received presents from the brothers on the promise of protection and the right of asylum in their town.

Later. The brothers have taken the bodies to Bonjoko for burial, and have since gone to live there. They have now made blood brotherhood with the other family, and the old blood feud is finished.

Stolen property found on anyone can be claimed by the owner, and the holder made to pay a fine unless he can prove by witnesses that it was given to him, or he bought it. The giver or seller then is made to pay the fine, and in addition return the money he received of the buyer.

If an article is stolen the owner walks through the town calling out a description of the thing stolen, and invoking on the thief all the fetish curses that come to his mind. These curses are so frightful as to intimidate the thief, and frequently the stolen article is secretly replaced.

If it is farm produce that has been stolen, say some cassava, the robbed woman took a piece of cassava and tied it in the clefted end of a stick, and just below a piece of *euphorbia candelabra* (a powerful charm) was tied. This she carried through the town calling out her loss, and invoking curses on the thief.

If something valuable, such as a piece of cloth, or a large knife or axe is lost, and the owner has a suspicion that a certain man is the thief, he can accuse that man, and if the man denies the theft, his accuser can demand that he should drink the ordeal and so settle the matter definitely. To refuse to drink the ordeal is an admission of guilt. Should the test go against the accused, he will have to replace the stolen article, pay a fine, and all the expenses of the ordeal drinking. But should the test establish his innocence, the accuser will have to compensate the accused and himself pay the fees of those who gave the ordeal. As a rule there are not many accusations brought on mere suspicion, they like to find the stolen property on the thief.

If a slave killed a slave, the owner of the murdered slave could demand two and even three slaves in place of the one killed, and he could kill them all or retain them as his slaves just as he liked. For the murder of a free man the blood of a free man or men must be paid.

Some few years before I went to live at Monsembe, a man, a free man, head of his family, was accused of witchcraft. He agreed to drink the ordeal, but as all the members of his family were away he wished the trial to be postponed until their return. This the accuser would not sanction, and pressed and taunted him so that at last he took the ordeal and died under its effects. The deceased's family returned, and were astonished to learn of the death of their "head." They threatened the accuser with death as they said their "father" had not had a fair trial, and that he had the right to demand the postponement of the ordeal until their return. It resulted in a big palaver being talked, and the accuser and his family had to pay fifteen slaves to the family of the murdered man. The last of the slaves was paid some eighteen years after the affair occurred.

Drunkenness and madness were no excuse for committing crimes. No one had the right to pardon except the injured person or family. To all known crimes were attached each its own punishment or fine. Adultery was fined from 100 to 300 brass rods—equal from three to nine months' ordinary wages. A thief, besides returning the stolen article, or replacing it, had to pay, as a fine, an amount equal to the value of the article stolen, and the robbed would take a part of the fine, and give the rest to those who helped him to enforce the verdict.

There was no distinction between premeditated and accidental homicide. Life had been taken, and it must be dealt with as murder. The family avenged all cases of assault on any of its members, no matter whether it was physical assault, abduction, rape, adultery, theft, or anything else.

Retaliation in kind, when possible, was the essence of justice among the natives—an eye for an eye, a cut for a cut, a bump for a bump, and a life for a life. When retaliation was impossible, compensation by fines was enforced.

The court was generally held beneath the shade of a spreading wild-fig tree. The headmen who acted as jury sat on the top side of a square; the plaintiff, his witnesses and followers sat on one side; the defendant, his witnesses and followers sat on the opposite side; and the bottom of the square was left open for neutrals, and for those coming and going.

Before the proceedings began the plaintiff and defendant would each take their party of followers on one side, but in different parts of the town, and state tersely their case to them, and then distribute from 200 to 600 brass rods among them according to the importance of the case. It was their duty to clap their hands, and applaud every point made by the one who hired them, and to laugh ironically at the arguments of the other side. These followers would be gathered from any of the men belonging to the neighbouring towns who happened to be drawn together to hear a "big palaver" and pick up a few brass rods. They were in honour bound to applaud their own side, and to remain as long as the case lasted on that day. If the case went into the second and third day, then "refreshers" had to be given to the crowd of followers each day. Some who had urgent business could not attend the second day, but there were others to take their places who were not able to be present during the first day. I have seen 150 to 200 followers on each side, most of whom had no interest in the case beyond the three or four rods they received for shouting on one side or the other. There was a fiction that they were genuinely interested supporters of the side they took, but I have often seen the rods distributed among them, and know for a fact that the majority did not care which side won. They always made sure of their rods before they shouted and clapped.

If a man who had a case was not a good speaker, he could engage an orator (*ntendeko*) to speak on his behalf for a fee of 200 or 300 brass rods a day. Such men were natural orators and it was a pleasure to hear them speak, and see their actions.

When all was ready the parties would take up their positions opposite each other, and the plaintiff would open the proceedings by stating his case, and calling on his witnesses to confirm his statements. The speaker would have in his hand a bunch of palm frond leaves, and as each point was finished he would lay one on the ground in front of him. When he made a telling point against his opponent, his followers would shout, clap their hands, laugh, snap their fingers at each other, and the wits of the party would hurl quips, jokes, gibes and proverbs at the opposite side, and try to look as though it were impossible to lose such a strong case so lucidly stated. These breaks gave the speaker a breathing time in which to collect his thoughts and strength for the next point. So the speaker would go on stating point after point until there would be twelve or fifteen leaves on the ground, all lying in the order of his arguments. Before sitting down he would briefly state the argument that each leaf represented, and it was rarely that a mistake was made in the order, but if there were, those sitting close by would instantly correct it.

If not too late in the day the defendant would state his case, combating his opponents' arguments, call his witnesses, put down his leaves, and rest while his followers indulged in bantering the other side.

Interruptions were frequent, noisy, and often verged on the point of violence. At a biting sarcasm, or a bitter retort, spears and knives would shake (for all were well armed), and more than once I have intervened at a critical moment to stop a general *mélée*.

The jury of headmen, after the defendant had finished, would withdraw to go over the evidence *pro* and *con* and consider their verdict, and on their return a couple of men with wood-ashes, or powdered camwood on leaves, would sit, one near the plaintiff, and the other near the defendant. The appointed chief would sum up the case, and give the verdict, say, in favour of the defendant, and instantly the man sitting near him would rub, with more vigour than gentleness, the wood-ash or camwood powder over the face of the winner as a sign to all that he was acquitted of the charge brought against him. He would leave the mess on his face for days as a proof, to all and sundry, of his acquittal. The loser would have to refund to the winner all his expenses, pay the jury of chiefs, and be a sadder if not wiser man.

Sometimes after one or two days' hearing the jury has not been able to decide a case satisfactorily, and it has been dismissed, each side bearing its own expenses.

There appeared to be no cross-examination of witnesses, no guarantee of truthfulness, and no punishment for perjury. Each side would start away in the far distant past, and drag in as much irrelevant matter as possible, and fog, confuse, and entangle the case to the best of their abilities. The ordeal[1] was at times resorted to in order to decide involved cases, and from the results of that there was no appeal.

XXXIII. ORGANIZATION.

A man before he marries builds a house in which he may live for a long time as a bachelor. His first wife will live with him in that house, and his second, when he can afford to procure her, may live, for a time, in the same house. It is, however, the ambition of every woman to have a house of her own, and it is the invariable practice for a man to build a house for every one of his wives, which she will regard as her own and in which she will live and bring up her family. A man of any pretence to importance will also have a house built exclusively for his own use. To this house he invites the wife he wants for the time being, or sometimes he simply goes to the wife's house for the night.[2] If he does not build a house solely for himself, he makes one of the other houses longer, and has his own private room in it.

If a chief has visitors he allocates one or more houses to them and their followers, and the women living in those houses become for the time being the wives of the visiting chiefs and their people. This may simply mean that they act as servants and cooks for the visitors and their retainers, for as a rule a chief on a visit takes two or three of his favourite wives with him. Still if the visiting chiefs or any of their retinues take the women temporarily as wives they are only accepting fully the proffered hospitality.

A village may have from twenty to five hundred huts in it, and even more. The villagers have sometimes quarrels and fights with sticks, but rarely, if ever, with guns and spears. They live as a rule at peace with each other, and if there is a dispute they try to settle it by "holding a palaver." They combine as a whole against a common foe. The family that causes a fight leads the van in a war, and if only the offended family attacks the offenders, the other families of the offender's town will stand armed ready to defend their families and property, should the offenders be unable to repulse the attack. But if the offended family brings the several families of their town to attack the offenders, then the other headmen and their followers in the town will join to repel the attack, for it is no longer a quarrel between two families of different towns, but a fight between town and town. Thus a family combines to fight a family, and a town combines to fight a town.

The Monsembe people belonged to the Boloki tribe, which tribe included the towns of Mobeka at the mouth of the Mungala river about 120 miles east of

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[1] See the *Journal of the Folk Lore Society* for March, 1908, for a description of ordeal drinking at Monsembe.

[2] If a man has several wives he sleeps 1, 2, or 3 nights with each in turn, and this is called *masu*. Should a woman have her period at the time of her *masu*, she loses it, but a healthy woman insists on her *masu*.

Monsembe on the north bank, also the towns in the district of Mangala twenty miles west of Monsembe and also on the north bank. The Boloki tribe had settlements on the south bank at Bolombo twenty-five miles east of Monsembe, at Dibulula a few miles farther east, and at Bokombi a few miles further east still. The chief men at Lulanga—a town, at the mouth of the River Lulanga, situated forty miles below Monsembe on the south bank of the River—claimed kinship with the Boloki; and at some of the towns on the Lulanga River itself I have met men who told me they belonged to the Boloki tribe, especially at Bonginda—formerly a large town twenty-five miles up the Lulanga River. Strange to say the section of Monsembe in which our station was built was called Bonginda, and the town referred to above as being twenty-five miles up the Lulanga River was also Bonginda. Considering the distance there was a great amount of inter-communication between the two places. Between Mobeka and Monsembe, and also between Mangala and Monsembe were many towns belonging to other tribes with whom the Boloki did not consider themselves as akin in any way.

Many of these Boloki folk came from the Libinza lake (already referred to), and others came down the Mangala River, hence the name of their language, Ngala, and the reason for calling the Boloki people, and the Liboko or Iboko people (of Nouvelles Anvers) by the name of Bangala, *i.e.*, *Ba-Ngala*, the people of Ngala, *Mu-Ngala* indicating the place of the Ngala. A good map will show that although the outlet of the Libinza lake and the mouth of the Mungala River are far apart, yet it was possible for emigrants of a large hinterland tribe to come out on the main river at those two places.

The Bomuna tribe occupied the river bank from just below Monsembe to Mangala. They were said to have come from the bush, and in fact their name was often used as a derisive term for "bushman." There were many dialectical differences in their language from that of the Boloki, but through long intercourse we had no difficulty in understanding them.

Juu (plural *Muu*) was the word used for family,[1] and it also means hearth, fire-place, seeming to indicate those who sat round the same fire. *Mboko* = branch of family having the same male ancestors. *Ekanga* = tribe, clan, from *Kanga,* to tie together, probably showing that they were tied together by the bonds of blood. *Ekanga* has two meanings: One narrow which covers only the immediate connections by birth kinship in all its ramifications, and the other which covers all who have the cocks-comb tribal mark.

Birth alone constituted membership of the tribe. A slave who redeemed himself would be tolerated in his attempts to pass himself off as a member of the tribe; he might affect the tribal mark, and plait his beard, etc., and his wealth might cause respect, but being of no family he would have little or no influence.

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[1] At Monsembe in 1890 there were the following families:—Misenge family of Bojombo; 2, Boboki family of Bololi; 3, Bokoka family of Mata Bombo; 4, Bobenjele family of Elemi; 5, Mampoko family of Njaki; 6, Bolombo family of Mata Ma Njoko; 7, Bonjoko family of Ekeba; 8, Bambai family of Munjele.

As shown in a previous part of this section geographical nearness did not produce a feeling of kinship, but blood relations, no matter how far apart they lived, felt the affinity strongly. While a mother's family was visited (if she were a free woman) the children belonged to the father's family. And it is considered a disgrace to be too closely connected with the mother. A free woman when about to be confined would go and stay with her mother during her accouchement, and for some few months afterwards, but this was to have her own family's help at such a time, and also if she died during her confinement her family would have to replace her, consequently they desired to have her among them to see that she was properly treated.

Some of the questions under this head have already been discussed in previous sections.

XXXIV. Kinship.

The native has very hazy ideas about relationship, and scarcely any two will give the same name to the same relative, and moreover, if you take a list of the names of relations from a lad and put it away for six months and then ask the same lad about the same relations in the same order as before with your list before you, he will give you a list that will not tally with your first one in several essential points. I have made many attempts to draw up a complete list, and if I had been satisfied to take one young man and examine him once only I might have procured a list of names for relations that would have been full, but it would have been inaccurate, *i.e.*, it would have been that man's list then, but it would not have been his six or eight months afterwards, and it would not have been anyone else's list even at the time he gave it to me.

The accompanying lists (p. 439) I received about the same time from two different young men of fair intelligence, and after I had written the two lists down, I called the two young men and read them their different names for the same relative. They each argued that what they had given was the right one and the other was wrong. I have found the same difficulty on the Lower Congo. It is impossible to get a list of any real value. My colleagues find it much the same among the other tribes.

The natives of Monsembe are unanimous respecting the terms for mother = *nyango;* father = *ango* and *tata* (*ango* is only used by a son to the one who begot him; *tata* is used by a slave to his master, by a son to his father, and I have heard it used by a mother to her son. It seems to be a term of respect in its wider use); brother = *nkaja*; sister is also *nkaja* (a sister calls her brother *nkaja*, and a brother calls his sister *nkaja*, but if a girl speaks of her younger sister or elder sister she would use the words *mojimi* for younger sister only and *motomolo* for the elder only. The boy would use the same words for younger or elder brother); younger sister or younger brother, *nkaja mojimi*; elder sister or elder brother *nkaja motomolo* (*nkaja* is never used in speaking of the same sex as the speaker, *i.e.*, by a sister of a sister, or a brother of a brother); wife = *mwali*; husband = *moloi*; child = *mwana*; male child, *mwana lele, i.e.*, son; female child, *mwana muntaka, i.e.*, daughter; grandparent = *nkoko*; great grandparent = *nkokolele*; great great grandparent = *ndalola*; but a grandchild is also *nkoko*, and so with the great grandchild *nkokolele*, and great great grandchild is *ndalola*. The farther you get away from the above degrees of relationship the more confused the native becomes, and the more contradictory will be his statements. The terms of relationship are used in addressing each other, but personal names are also used without any hesitation. The names of the dead, however, are seldom mentioned, and always avoided if possible.

The first-fruits of fishing, hunting, and farming were always given to the parents or their next of kin if the parents were dead. Special portions called *mobando* and *elelo* (of an animal killed by a man) were given to his relatives and children, and to the headman of his family.

The mother-in-law is the only relative avoided. She and her son-in-law must not look on each other. Directly a man hears the word *bokilo* = mother-in-law, he runs and hides. They can sit at a little distance from each other, with their backs to one another, and talk. The only reason I have been able to ascertain for this avoidance is: "My wife came out of her womb." *Bokilo* is from the verb *kila* = to forbid, prohibit, tabu. *Bokilo* in its wider use is also relation-in-law, *e.g.*, daughter-in-law, brother-in-law, sister-in-law, sisters of mother-in-law, father-in-law, and it was regarded as incest to have sexual intercourse with anyone who was *bokilo*.

I knew a case in which a man married his mother-in-law by marriage. The woman was not his wife's mother, but his wife's father's wife, and as such was his mother-in-law. I had seen him avoid her many times, and it was evident from this that all the wives of the wife's father are regarded as joint mothers of the children, and hence mothers-in-law. The man's wife's father died, and the man wanted to have one of the wives (*i.e.*, one of his mothers-in-law) as his own wife, so he arranged with a friend to pay the marriage money and take her as his wife, then she by that marriage being no longer his mother-in-law, he was able to take her as his own wife. He paid the money for her and took her to his house.

No genealogies are kept, and in two or three generations all ties of near relationship are lost, and, if here and there remembered, are non-effective, except where a man can get a drink of sugar-cane wine, or a feed by recalling kinship.

English.	Words given by Lutoba.	Words given by Intongi.
Mother's brother	*Mojika*	*Mojika and* [1]*Nso mama.*
„ brother's son	*Nso nyango*[2]	No name, but takes name of *Mojika* on his father's death.
„ „ son's son	" "	Called by personal name until death of his father, and then *Mojika.*
„ „ „ daughter	*Nkaja*	No distinctive name.
„ sister	*Mama*	[3]*Mama moti.*
„ sister's son or daughter	*Mojimi or nkaja*	No distinctive name.
„ „ son's son	" "	" " "
„ „ „ daughter	" "	" " "
Father's sister	*Tamwalimoto*	*Tamwalimoto.*
„ sister's son	*Bola*	[4]*Mwana wa tamwalimoto.*
„ „ daughter	*Nkaja*	" " "
„ „ son's son	[5] *Wa mwa nyango*	No distinctive name.
„ „ „ daughter	*Nkaja*	" " "
„ brother	*Tata*	[6]*Ta mungwende*, or on his father's death he is called *Tata* or *Tata Elenga* [7]
„ brother's son	*Mojimi*	No distinctive name.
„ „ daughter	*Nkaja*	" " "
„ „ son's son	*Mojimi*	" " "
„ „ „ daughter	*Nkaja*	" " "
Brother's child	*Mwana*	*Mwana.*
„ child's child	"	"
Grandfather, or mother or child	*Nkoko*	*Nkoko.*
Great grandfather	*Nkokolele*	*Nkokolele.*
„ great grandfather	*Ndalola*	*Ndalola.*

NOTES ON THF NAMES IN THE LISTS.

[1] *Nso mama* and [2] *Nso nyango* are practically the same, as the second word in each phrase means mother, and the *Nso* is the collective plural of *Munso* = bowel, intestine, entrail, hence *Nso* = the bowels, intestines; and the idea is: the one who comes from the same womb as my mother. The word *Nso* is only used of maternal relatives.

[3] *Mama moti* = the little mother.

[4] *Mwana wa tamwalimoto* = child of *tamwalimoto.*

[5] *Wa mwa nyango* = of or from the little mother; *mwa* is a sign of the diminutive.

[6] *Ta mungwende* = one who stands in place of another.

[7] *Tata Elenga* = young or boy father.

Mama is not an introduced word. We found it in full use on our arrival, and although it was often used about one's own mother, yet it had the same meaning as applied to female relatives, mistress or mother, that *Tata* has to male relatives, master or father. See above on *Tata* (p. 437).

By "no distinctive name" I mean no term indicative of relationship. They were known by their personal name only.

I may say that the list under Intongi's name, although not so full, is the better of the two, because where there is a term given it is properly descriptive of the relationship, but the words in Lutoba's list, such as *Mojimi* = the younger and *Nkaja* = brother, sister, are so general and more often used of one's own brothers and sisters that they are little or no good as terms of relationship in the wider circle of cousins, nephews, etc.

XXXV. Marriage.

Young girls and even babies are betrothed in marriage and payments made for them before they are old enough to understand and give their consent. On the marriage money being completed the man takes a brass bracelet, and in the presence of witnesses, puts it on the child's arm, and at the same time, says: "This is my wife." When the girl arrives at a suitable age, and sometimes before puberty, she is taken by her parents, together with some sugar-cane wine, to her husband and handed over to him, and on the man giving the parents a present the transaction is completed. Should the child die another is put in its place, and if that is not possible the money is returned. Sometimes a girl objects to being handed over thus, and, if her protests are disregarded, she will run away to a neighbouring town and select her own husband, and her parents will have to make the best bargain they can in the way of marriage money.

If a man in search of a wife sees a young woman he likes he may speak to her, or to her father first, and if they—the girl and her parents—are agreeable, he will call his friends as witnesses and go to the father's house. The girl will then be called out and the man will take a spear and going into the centre of the crowd he will stick the spear in the ground and say: "If the girl likes me let her pull up the spear." Thereupon the girl will step forward, and pulling up the spear will carry it to her father saying: *nakamojinga* = I desire him.

When the time arrives for the marriage the parents will take some plantain, cassava, fish, and various other kinds of food, and a calabash of sugar-cane wine, and together with the girl will go to the house of the husband, and hand over the girl by putting her hand in the man's hand in the presence of some witnesses. These latter drink the wine and the ceremony is completed, and consummation of the marriage takes place that night. The food and the wine are a proof that the girl is not sold as a slave, but is married as a free woman.

When a girl has pulled up the spear, the man has to pay the "bespoke" money—a hoe, an axe, a blanket, a looking glass, a matchet, and a few other odds and ends—to the head of the girl's family. The girl is then reserved for him until such time as he can pay the whole or larger part of the marriage money—equal to about £10, which is about the cost of two male and two female slaves. In the meantime he can give small presents to the girl, and she will cook and send him an occasional dish of food, and often there is sexual intercourse before marriage, for the young man regards the girl, and speaks of her, as his wife.

A free man marrying a free woman would have to give her father and family two male and two female slaves, and no money or goods would be taken in lieu of them; but as there were so many debts among them a person would sometimes (and it was not uncommon) marry and pay this marriage "money" without a single slave actually passing between them, *i.e.*, B wants to marry A's daughter, so he will go to C and to D who each owe him a male slave, and will take them to A, who accepts them as his debtors; then B will go to E and F who each owe him a female slave, and these debtors of B will be taken to A who accepts them as his own debtors; now C, D, E, and F have no slaves they want to part with, so they in their turn will look up some debtors and take them to A, who will again accept these new parties as his own debtors. This was called *bwaka nyungu* = to pass on, or throw over a debt (or credit as the case may be) from one to another. I have known more than one case in which the father of the girl has had the debt worked gradually back to himself, and in giving his daughter in marriage he has received nothing, but has paid some of his creditors.

During the time the man is collecting the marriage money, he will build a house, if he does not already own one, and the girl will prepare a farm for herself. After the above described ceremony is over, the girl borrows all the finery she can of her female friends, decorates herself with oil and camwood powder, and for two or three weeks walks about the town with her husband—a sign to all that she is now his wife. If the man has already a few wives they will help to "dress her" by the loan of their own trinkets and will lead her about the town, as a proof that she is now a fellow wife and belongs to their husband. They exhibit no jealousy, but regard her as an acquisition—the new wife being one more to help keep the husband. During this period the man buys all the food, but when the "honeymoon" is over the girl takes up her farm work, and settles down to ordinary life. From that time she brings home each afternoon some of her farm produce to prepare for her own and her husband's meals. The husband, however, must find the meat and fish for such meals, and must be willing to share them with his wife or wives.

If the woman is a slave there are no preliminary gifts, no "bespoke" money. The sum agreed upon is paid, and the woman is taken to her new owner's house. There is no "honeymoon" for a slave wife. The children of such a marriage are called *mbotela* = semi-slave, indicating that one of the parents is a slave. If a man cannot afford to buy a slave, he hires one as his wife, and any children born to them belong to the owner of the slave woman, and not to the father and mother. A man will sometimes borrow a wife from another man for three or six months, and will pay a fixed sum according to the length of time he has her. Any children born of such an arrangement belong to the real owner of the woman.

A man can marry as many women as he can afford to pay marriage money for, but to each he must give a house, and all his free wives have equal rights, but slave wives are treated as slaves. Polygamy was very general, a monogamist was the exception, and monogamy was the result of poverty.

If a free woman did not want to marry the man who was trying to arrange for her, she would tell him frankly that if he persisted in marrying her she would run away from him. If, in spite of this threat, he completed the arrangements, then one day she would escape to a neighbouring town, and put herself under the protection of the chief by tearing his cloth. The chief would give the husband notice of what had happened, and before he could get his wife back he would have to pay the chief 600 brass rods = 39*s.* If the man would not then permit her to marry the man she wanted, she would run away again, and again, and every time she ran it would cost her husband 600 brass rods. A sensible man would take warning by the first threat and would not marry her. If a free woman were badly treated by her husband, she would resort to the above method of making him pay for his ill-treatment of her, and would thus force him to use her more kindly. A slave wife he could kill for acting thus, but a free woman has a family not far away who would avenge her murder. The only redress for a badly treated slave is to escape to a place so distant that her owner cannot or dare not follow her. This has a restraining effect on his anger towards her, and enforces considerate treatment of her.

The following is a more drastic way of punishing a husband for ill-treatment: A woman has been very badly treated by her husband and in spite of her protests and warnings he continues to ill-use her, so one day she runs to the *nganga* and smashes the *eboko* = the fetish saucepan of the "medicine man," and in so doing she commits a very great offence. The *nganga* therefore holds her as a hostage until her husband redeems her by the gift of a slave and the payment of a sum of money to replace the *eboko* and make fresh medicine. Having paid the money he will treat his wife better in future, or she will again break the *eboko.*

Free men did not, as a rule, marry slaves, but the slave woman was given to a slave man, and thus she helped to make the slave contented with his lot in the town and tribe; she kept him in food as well as contributing to her master's keep, and enhanced the wealth of her master by bearing children which were slaves.

Sometimes, in anger, two men would exchange their wives, especially if one man's wife was continually running after the other man.

Above the age of five years it would be impossible to find a girl who is a virgin. The only thing a man can do is to see that his wife does not commit adultery after he has married, without his consent and receiving compensation for it. Should she do so the man is punished by a fine, but the woman goes unpunished. If she were punished she would not confess, and without her confession the husband could not enforce a fine on the man. The woman's word is always taken against a man. I have a strong suspicion that this power is often abused. (1) By the woman to pay off a grudge against someone who has slighted her, and also to be regarded by the other women of the town as one after whom the men run. (2) By the husband as a means of replenishing an empty purse—the fine being shared by the husband and wife. There are, undoubtedly, women who remain faithful to their husbands, but there are very few.

If a woman does not know, or will not perform, her duties properly as a wife, *i.e.*, will not farm, cook, etc., the man can take her back to her family and receive in return the price he gave her family, but not the "bespoke" money. Should she die within a few years of marriage the man can claim either another woman or the return of the marriage money.

There is no doubt that in a family there is great freedom of access to the women, belonging to the members of the family, by the men of that family. To inflict a fine for such would be like punishing one's self, for the money belongs in a way to the family.

When a free woman wants to leave her husband, or have a divorce from him, she sends a "token" to the man of her choice who, if desirous of possessing her, goes to the husband and tries to arrange the matter. If the husband is unreasonable in his demands—wants too high a price or too much marriage money, or wants the whole sum paid down at once, then she resorts to the expedient of running to a neighbouring chief (as mentioned above), and the husband is soon brought to his senses. If the "token" sent is returned she knows that the man does not want her, and if her family is unwilling, or unable through poverty, or think that she has no reasonable excuse for a divorce, and consequently will not return the marriage money, she must remain with her husband. To run away to another town, without just cause, is to make her name a by-word in the town, and the native is very sensitive to public opinion, such as it is.

There is not the same desire for children, on the women's part, as on the Lower Congo. This may be accounted for by the fact that the children belong to the husband, and not to the wife as on the Lower Congo.

A man cannot marry his mother, his sister, his aunt, his daughter, his grandmother, nor his granddaughter. Neither can he marry his nieces or cousins—they are his brothers, sisters or children. He can marry his father's wives but not that one who is his own mother.

XXXVI. The Family.

If the children are born of a free mother, or of a slave who has been bought in the ordinary way, they belong to the father. The children inherit from their father's, and husbands inherit their wives' property. The children of a hired woman belong to the man from whom she was hired (see Section XXXV). However old a woman may be, she does not remain a widow after the mourning for her deceased husband is over. Directly her husband dies she becomes the property, *i.e.*, the wife, of her husband's heir. He, however, does not claim her until after the time of mourning.

A child will visit his mother's family, and will remain with them for periods varying from six months to two and three years. Some women, just before confinement, go and stay with their mothers and families for the confinement, and for six or twelve months afterwards, paying only short occasional visits to their husbands, and receiving the same from them. There were many exceptions to this custom.

The status of a child depends upon the freedom or the slavery of one or both parents. A child of slaves is a slave; a child of a slave mother by a free father is *mbotela* = semi-slave, and his position in the town is higher than that of a pure slave, and higher than that of a child of a slave father by a free mother, but not so high as that of a free born child. The child is kin to the father only.

The father during the pregnancy of his wife is prohibited certain foods, and may not hunt or fish during the pregnancy and confinement of his wife, unless she goes to a "*nganga*" and has certain ceremonies performed on and over her (see previous section). The prohibitions varied considerably, and when a man was observing these tabus, he was said to be in a state of *liboi*, a noun derived from the verb *bwa* = to deliver of a child, to be confined. I have always regarded this as a remnant of "*la courade*." They have no tradition of the man ever having taken the place of the confined woman by lying in bed during confinement.

Among the Boloki, the children of a man by his various free wives had full rights of inheritance within the limitations described under a previous section; see *Inheritance*.

When a man divorced a wife who had a child of tender age, the child was allowed to remain with her until he or she was about ten or twelve years of age, when he was given up to his father, but was allowed to visit his mother should she be living in a neighbouring town or district. The father has the right to kill his own child, and although the act may be strongly condemned by neighbours, they have no power to punish him even though it may be a clear case of murder. I may say that I never heard of a father killing his child while I lived among them; but there were many cases of a father pawning his children for debt, and occasionally selling them.

There is no adoption, but there is both blood-brotherhood and milk brotherhood, but these carry no right of inheritance, although to the latter a portion of the estate is sometimes given. There is also milk sisterhood, and when a woman is a milk sister it is not usual for her milk brother to marry her. It is permissible but is regarded as irregular. There is no blood-brotherhood between men and women.

Blood-brotherhood was very common and was performed with much ceremony (see Section XLI). The effect of this rite was to stop all feuds and cause the contracting parties to act in all respects as blood relations. They were supposed to warn each other of danger, *i.e.*, of arranged raids or reprisals on their respective towns, to help one another in difficulty, to hold property in common like members of a family, and to lend to each other without interest, and without dunning for repayment. I think these matters were more honoured in the breach than the observance. However, I have again and again seen a disturbed district, where during several weeks there had been much fighting and many killed, quiet down directly the headmen had made blood-brotherhood. All the important men of the district had many cicatrices on their arms indicative of the frequency with which they had performed this ceremony. I was asked many times to submit to the same rites, but always refused for obvious reasons.

The length of time that a child remained under the control of his father depended largely on the character of both, and the strength of will each possessed. There were no unmarried men's houses in the villages, consequently, male and female children belonging to the same mother were brought up together in her house until such time as the boys were old enough to build a house for themselves, if they cared to do so. There was no age limit. I have known quite big lads to sleep in their mothers' houses, and I have also known smallish lads of energy and initiative combine to build a hut for themselves of which they were very proud.

XXXVII. WIDOWS.

As stated in a previous section there were really no widows among the Boloki, for as soon as the husband died, they became the wives of the heir. If the woman were free and did not like her new husband she could act as described under Section XXXV.

Upon the death of the man, his widows cry and drink water mixed with clay (*emolo*), strip themselves absolutely nude, or dress in a few leaves, and rub dirt on the body (sometimes only half the body is covered with dirt, and the other half left its natural colour, giving a very grotesque appearance to the mourner), then taking something belonging to their late husband, they parade the town in pretended search for him. After the funeral they sit in their houses for five or six days until the sister of the deceased man gives them permission to leave the house, and for six weeks or two months they walk only in the "bush," and if they hear anyone coming they hide, and during this time they may not walk about the town; then for another three or four months they wear long untidy-looking grass clothes (*bilembu*). If their late husband was a great hunter then the widows will not eat meat during the period of mourning; but should they during the time of mourning "live well," the deceased man's sister or daughter will upbraid them for not mourning properly, and the folk in the town will regard them as callous, hard-hearted women, and the public opinion of the district will condemn them.

XXXVIII. MORALS.

The adjective *lau* has a wide range of meanings which can only be accurately understood by their context. *Lau* may mean: good, right, just, reasonable, fine, proper, admirable, beautiful; from *lau* the noun *bolau* = goodness, etc., is derived, but it is in no way indicative of a moral quality. In the same way with the adjective *bi* = bad, wicked, base, evil, etc., and its noun *bobi* = badness, wickedness, etc.; this was the only equivalent we could find for our word sin. In all our translations we had to take the best words, the nearest equivalents, and group round them the moral ideas we wished them to convey. We could not discover any words for virtuous or vicious; a person either had *bijalele bilau* = good ways, good habits, or *bijalele bibi* = bad ways, but these referred more to the presence or absence of rudeness = *bolongono*, or disrespect to superiors = *bompetokolo*, or greediness = *ejaki*, etc., than to any moral or immoral qualities about him. In fact, if he stole from a stranger and lied wholesale to him he would be admired by his neighbours as a clever, sharp-witted fellow, but if he robbed his neighbour, or slept with his neighbour's wife without first paying him, he would be condemned by public opinion and regarded as one who had *bijalele bibi* = bad habits.

Public reprobation was only visited upon those who committed wrong acts so clumsily as to be found out in their wrong doing. I have heard them speak admiringly of one who, while working for a white man, robbed him so cleverly as not to be discovered, and such an one would bring back to his town the proceeds of such a robbery and boastfully describe how he committed it; on the other hand I have heard them call the clumsy thief a "fool," not bad nor wicked, but *elema*= stupid, fool, etc. Robbery, adultery, wounding and murder, when committed within the limits of one's own family, would receive strong general disapprobation but no punishment, unless the offender was a boy, and then a sound thrashing would be administered; for would they not be punishing themselves if they inflicted a fine, etc.? But if committed outside the family limits then punishment would be meted out according to the wrong done.

In dealing with an alien it would not be considered wrong to rob, beat, abuse, or even murder him, unless he had come on a visit, for trade or other purposes, to some one in the town. He would then be under the protection of his host, and would receive his hospitality and hence the hospitality of the town and neighbourhood. The host would have a *casus belli* against anyone who molested his guest. Men and women travelling alone or in two's and three's in places where they are not known, run the risk of being captured and sold as slaves. Such defenceless travellers would hide by day and travel by night to their destinations. Green in his *Shorter History of England* says: "that in ancient times the painted British savage on approaching a village sounded a horn to warn the villagers of his coming, otherwise he would be treated as an enemy who tried to surprise them by stealth."

Among the Bangala it was the custom that when the canoe containing six or more men drew near to a town they had to beat a drum and sing to notify the folk of their coming, otherwise they were treated as enemies and laid themselves open to an attack. For a canoe of strangers from neighbouring towns or districts to approach a town unannounced by drum or song was regarded as an act of war. If their coming were peaceful, why were they afraid to drum and sing? I have seen the crew of such a canoe badly handled for omitting these courtesies, and but for our presence some of the travellers would have been speared.

Death and disease were regarded as abnormal states, and only to be accounted for by witchcraft and the use of fetishes against an enemy; therefore if a man were ill someone was causing the disease by the aid of a charm or fetish, hence everybody had protective charms to ward off the malignant spells used against them. It did not necessarily follow that the man suffering had done wrong, but that either he or one of his family had committed some overt act against someone who had a powerful fetish from which their charms were unable to protect them. Sometimes the spirit (*Mongoli*) of a deceased enemy would inflict an illness on a family, a member of which had wronged him when in the body.

A man who was hard, stern, unmerciful, and unsociable was supposed to be punished in the nether regions. After the death of a man of this character I have heard the natives say: "So and so is having a bad time now in the nether world (*longa*)." Whenever I tried to ascertain the nature of the punishment, they were always very indefinite, and the most that I got was: He is being badly humbugged, befooled, derided, etc.; the word used was *siswa*, which contained no idea of physical pain.

The natives, when speaking to us, would condemn evil practices, as lying, cheating, stealing, adultery, etc., yet I never knew a native to be boycotted for doing wrong, but I have known them to be ridiculed for being detected, or for the paltriness of their excuses. The man or family that suffers the wrong will condemn it, and the people to whom they speak will strongly censure the outrage, but at the same time their relations with the offender will remain as good as ever, and you will see them laughing, talking, and walking with him within five minutes of his exposure.

Promises and oaths are ratified by each contracting party putting a curse on the other should he break his oath, and illnesses and bad luck are often looked upon as due to unfaithfulness to one's oath. Sometimes tabus are put on one another by the contracting parties, and so long as the tabus are observed they are reckoned as faithful to their oaths. This is especially so in the covenants of blood-brotherhood, and to disregard the tabu is either death, or some great disaster. Many of their folklore stories are illustrative of the evils of breaking blood-brother tabus.

Adultery is a personal injury, for the offender has used something that does not belong to him without the consent of the owner. A man can arrange to use another man's wife for a certain period at a fixed price and no wrong is thought of it. All unnatural acts (bestiality) are condemned and the offenders ridiculed and abused, but such acts are very rare because where the women and girls—slaves and free—of the family have so much liberty there is little or no temptation to commit such acts. Still I have heard of its being attempted.

The greedy man, the coward, the thief, the scamp who disregards the feelings of others, and rides rough-shod over all the social and communal institutions, the man who is impotent—not able to beget children, the man who is accused of witchcraft and will not take the ordeal, and the incestuous are all put into the songs which are sung at the village dances, and there is no more powerful factor in influencing the native to good or evil than the mention of his name in an impromptu song at the village dance. The paragraph in our newspaper is read by comparatively few people, and only a small percentage of those who read it know the person mentioned, but the song is sung, night after night, by all the village—the very neighbours of the one thus held up to ridicule, or honour. The village song incites to deeds of reckless daring in times of war, it brands and shames the cowards, and it restrains considerably the rascals, while it maddens to the verge of suicide the impotent.

XXXIX. SEXUAL RELATIONS.

Some of the queries under this head have been already answered under previous sections. As a rule we did not care to sit down and talk about such matters, but occasionally we gathered some information while listening to and settling their palavers.

From early age to puberty the boys and girls had free access to each other. After puberty, restrictions were placed on the girls, and the act was regarded as adultery, and was punishable by fine, if the offender did not belong to the same family as the girl. The fine was paid in brass rods or their equivalent, and ranged from 100 (=6*s.* 6*d.*) to 300 and 500 rods. In Monsembe I only knew of one prostitute, and she was treated with little or no respect by the women, and lightly spoken of by the men. *Loleka*=whore, prostitute, and *mokakanu*=fee given to a prostitute.

I have never heard of mutilation as a punishment for adultery among the Bangala. I have seen it stated that among them an ear was cut off as a punishment for this offence. I travelled constantly among them for nearly fifteen years and only occasionally saw either a part or the whole of an ear cut off, but I was also told on enquiry that that was a punishment for *repeated thefts*, and those thus mutilated *were slaves.* Free men were fined for thefts, not mutilated. I have known men to be financially ruined through having to pay fines for repeated acts of adultery, but if the ear cutting had been the punishment there would not have been a single man with both his ears, for there was not a morally pure one among them.

There are two names for an illegitimate child—*mwana wa ngangi*=child of a mistress, *i.e.*, a woman who has been hired from her husband, family or guardian for a fixed period at a certain stated price; and *mpampoka*=a child whose father is not known. In the former case the child would eventually be owned by the proper husband or guardian of the woman, unless the lover had made other arrangements at the time of hiring his mistress; in the latter case the child would belong to the woman and hence to her family, and in both cases the child would remain with its mother until it was ten or twelve years of age. A man hiring a woman would have to pay a larger fee if he desired to claim any child resulting from their intercourse.

Undoubtedly there are both solitary and mutual masturbation, and men when standing about will often unconsciously play with themselves even when they are standing or sitting round white people—male and female. I have many times by word or gesture called their attention to it, and they have stopped at once and looked very shame-faced over it. I have never seen a woman do it. Probably their crinoline-like dresses did not easily permit of it. The dress of the men and boys made the act very easy of performance, and I should say rather encouraged it by the friction exciting them. I never saw a native who wore trousers do it openly like the others. Probably this evil often caused the pains in the small of the back from which they frequently suffered—lads and men alike, and occasionally the swellings in the groins, and much of their listlessness.

Occasionally I heard boys laughing at one of their number who had tried to have intercourse with a goat, and from what they said while chaffing their companion I should judge that bestiality was not common and arose more from a desire for novelty than lustfulness. Sexual excess was well-known among them, as they had words that indicated physical conditions that were the result of this cause, and there is no doubt that the frequent cases of impotency one observed were caused through sexual excess. I have met many young men who were bachelors, and older men who had been widowers for years, but I do not for a moment think they practised celibacy. They were simply too poor to buy a wife, but probably not too poor to hire one for a time. Wherever I have lived I have noticed that polygamy has resulted in a few men having the women—and they the older men, while the virile young men have not been able to secure wives. This has resulted in illicit intercourse, and has made abortion common in order to hide their condition from the husbands, and save the lovers heavy fines.

The African thinks that a man cannot live without a woman. And I have heard them, both on the Lower Congo and the Upper, solemnly discuss whether we were properly made as we always refused to accept their offers of women.

If a woman is addicted to adultery her husband will put a hook in the vagina and, drawing it out with force, will tear the flesh badly. It is a punishment much condemned by the people and dreaded by the women, and has undoubtedly a deterrent effect upon them.

Sodomy between men is very common, and is regarded with little or no shame. It generally takes place when men are visiting strange towns or during the time they are at fishing camps, and away from the women of their family. If a man committed it with a woman he was at one time liable to be punished by death, but now he is tied up, and fined heavily by the elders of the family and town. It is not simply a family offence but an insult to the community, hence the elders of the town take part in judging and punishing the man.

XL. Death and Burial.

Three causes of death are recognized. 1. *njambe*=God, providence, the destroyer; 2. To die by another's witchcraft; 3. To die by one's own witchcraft.

(1) In cases of accidental death as the swamping of a canoe in a storm, or through overloading it, they said: *Njambe* had caused the accident; but other accidents in which they observed what they considered exceptional circumstances, as the upsetting of a canoe by a hippopotamus or crocodile, they put to the account of witchcraft. Thus a canoe swamped in a storm was an act of *Njambe*, but a canoe upset by a crocodile was an act of witchcraft, as no crocodile would have done it unless it had been instructed to do it by a *Moloki*=a witch, or unless

the *Moloki* had gone into the animal and made it commit the outrage; therefore it was necessary to find the *Moloki* and punish the person who harboured such an evil spirit. The word for sorrow is *nkele,* which really means anger, indignation, and the idea is that they are "angry" that their relative has been done to death by the *Moloki.* There is no other word for grief at the death of anyone than this *Nkele.*

(2) *Awi moyengwa*=he died by the witchcraft of another. On the death of a patient the body is opened and the arteries connected with the liver are examined, and if they are full or only one is empty then the person was bewitched to death, consequently someone is accused and the ordeal is given to one after another, until the guilty person is found, *i.e.*, until someone succumbs to the ordeal and falls intoxicated by it to the ground.

(3) *Awi na likundu*=he or she tried to kill someone else by witchcraft, and the other party's fetishes, etc., were too strong, and it has resulted in the bewitcher's own death. The *nganga* decides the matter, for he investigates the corpse when it is opened, and if the arteries near the liver are empty then the man (or woman) died as a result of his own witchcraft. If one artery only is empty that counts for nothing, but if four or five are empty then the *nganga* say: "That one is the *likundu* (the occult power), by which he so skilfully made canoes or did his smithy work (according as the man was a canoe maker or blacksmith); that other empty artery is the *likundu* by which he was successful in fishing or hunting and so on, and that other empty one is the *likundu* by which he bewitched people, hence someone with a stronger occult power has overcome and killed him." If only one artery is empty, that is allowable, as a man must have skill to do ordinary things like other folk, but if several are empty then he had more than his share of occult power and no one pities him in his death.

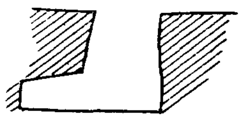
Relatives attended the sick and nursed them very faithfully, and it was a sign of true friendship to visit a sick acquaintance, or to send regularly and inquire after his progress in health. The women were so fond of attending the sick, *i.e.*, sitting in the house and giving advice, that they neglected their work and various duties to do so. Hence a sick person would often have a house full of visitors, attendants, and advisers, and if the complaint was infectious it was thus quickly spread through the town. I have gone to see a smallpox patient, and found the house literally packed with folk. Isolation was derided, and precautions were foolish, for none of them would take the complaint unless they were bewitched.

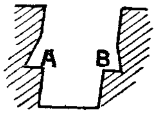
When a man of any importance died, those who were expert in the art of decorating corpses would attend and decorate the body with coloured pigments, beads, and fine cloth, and the artists would charge two brass rods per person to view the body. The family found the cloth, pigments—arnotta dye, chalk, camwood powder, blue and yellow earths—beads, and cowrie shells, bottles and looking glasses. The artists gave their time and skill to the family for a small fee, and took as their perquisites the brass rods paid to view the picturesque (?) corpse. As a rule the body was buried within three days after death, and by that time it was unsavoury. When, for various reasons—as lack of means to give a good funeral—it was not convenient to bury the deceased so soon, they took out the entrails and buried them, placed the corpse on a frame, lit a fire under it, and thoroughly smoke-dried it; thus they would keep it for a more convenient time. This might be a matter of weeks and even months. The dried body was tied in a mat, put in a roughly made hut, and an occasional fire made under it. Another mode is as follows:—The body is tied in mats, and buried in an ordinary but shallow grave, a big fire is made on the top of the grave to dry up the juices of the body, and so preserve it. At a more convenient time a coffin is made and the corpse buried properly; this is called *likaku.*

Coffins were often made out of old canoes, by men who went about the district for that purpose. Considering the material and tools they were well made, the various pieces fitting closely together. These native "undertakers," on arrival at the place where their services were required, put up a fence of mats so as to make a private workshop. They charged so much for the job, and were kept in food and drink, and any dogs, goats, etc., that pushed open the mats and entered their workshop were liable to confiscation, if their inquisitiveness caused them to persist in entering after they had been driven away twice. The coffins were sometimes lined and covered with cloth, but more frequently stained with arnotta dye, and picked out with yellow and blue pigments. All the materials were supplied by the family. Clumsily made native nails, or wooden pins, were used until they were able to procure nails from us. Sometimes the parts were laced together. Poorer folk were rubbed with oil and red camwood powder, bound round with cloth and tied up in a mat, and those who were very poor were tied simply in their sleeping mats; a corpse was rarely thrown into the river or bush. When the time for burial arrived the coffin was carried round about the town on exhibition, then the corpse was placed in it, and men conveyed it to the place of interment, followed by relatives male and female—not wives—friends and towns-folk generally. The wives remained behind to continue their mourning. A person often died away from his house, and frequently away from his town.

When a man died his wives would throw off their dresses and wear old rags (sometimes they would go absolutely naked) pick up anything belonging to him—his chair, spear, pipe, mug, knife, shield, blanket—anything that first came to hand, and having covered their bodies with a coating of clay they would parade the town in ones, or twos or threes, crying bitterly and calling upon him to return to them. At times in their crying they would stop and say: "He is gone to so and so, we will go and find him," and away they would start off in a business-like fashion in search of him. This they would keep up for a day or two, then the women of the town would bedeck themselves with creepers, vines, leaves, and bunches of twigs, and forming themselves into a procession would march through the town chanting the praises of the deceased. Men would paint and arm themselves as for a fight, and would imitate the acts of the deceased as a warrior, and if he had been remarkable for fighting on the river they would get up a sham canoe fight in his honour. Fifteen to twenty canoes, laden with men armed with spears, shields and guns, would go through all the manœuvres of a mimic river fight, firing their guns, pretending to throw their spears or deflect them with their shields, circling round each other amid shouts of their prowess, or laughter at those who lost their balance and fell in the river. Those ashore would crowd along the bank and yell out directions, approbation, and encouragement to their friends in the canoes. It was an amusing and interesting sight and seemed to be thoroughly enjoyed both by actors and spectators. This they called *kembela* = to praise, glorify, from *emba* = to sing about.

The graves were of three kinds: 1. When the grave was dug deep enough a cutting was made at the side to lay the corpse in so that the earth did not press on the body, thus: 2. A notch was cut in the earth along the two sides about 2 feet from the bottom and planks or sticks were laid across after the body was put in position, and the earth was thrown on the sticks. (A and B notches or ledges to take planks or sticks). By this means the earth was kept from contact with the coffin. 3. An ordinary straight-sided hole and the earth put on the body. 1 and 2 were for important men—those whose families could afford to pay for the coffin and the better kind of grave, and No. 3 was for the common people. There was no special time for burying, and no particular position for the grave and corpse. I have known them to bury their dead at different times, in the morning, afternoon, and evening. Most bodies were buried in one or other of the houses (or near to them) belonging to the deceased, consequently the position of the grave depended on whether the house ran east and west, or north and south, or whether the row of houses owned by the deceased was parallel or at right angles to the river.





In the old days it was the custom to kill two slaves and put one under the head as a pillow, and one under the feet of the corpse. In every family of importance there was a slave wife, who went by the name of *mwila ndako*, and it indicated that she was to be buried alive with her dead husband. If, however, this wife had a child before her husband died, then another woman took her place—a young woman was generally selected for this doubtful honour. The number of wives buried in the grave was in proportion to the man's wealth and importance, but he always made certain of one—the *mwila ndako*. We were able eventually to persuade them to stop this custom, but it was not until we had gained their confidence and goodwill by nearly three years of residence among them.

After the coffin had been put in the grave, men came forward, and taking a spear, called upon the spirits of those the deceased had killed in war to attend their conqueror in the spirit world, and every time the name was mentioned or an order given a thrust was made with a spear. The person whose funeral I attended had killed seven persons, and their skulls were at the base of the wild fig tree just in front of his house. Different men called on the different spirits; and so far as I could ascertain it was those who knew all the particulars of the slain, and the circumstances attending their death that had to call on them to attend and obey the deceased. It seemed to me that by giving details of the person killed, the spirits could make no mistake as to who was meant, and by giving details of the manner of death there could be no mistake that a claim on their service was established. Some brass rods were buried in the grave, and spears, knives, and two or three other things were put in the coffin. Over the grave a shelter was often built, with a rough table under it. On this table were put bottles, saucepans, plates, mugs, etc.; under and at its side were put stools and chairs, but everything was "killed," *i.e.*, broken. All the natives told me that the articles were killed to keep people from stealing them, yet they had an idea that the things thus displayed not only served as a memento of the deceased but helped him, in his present state, in some indefinable way. Undoubtedly they had forgotten the reason for "killing" the articles. The stealing reason was not sufficient to meet the case, as no one would be found with so much hardihood as to rob a grave, they had too wholesome a fear of spirits to do that; besides detection would have been easy and dire punishment follow the theft.

A man while mourning for a relative or a wife would wear rags, or an old string fish net, and would allow his body to go unrubbed with oil and camwood powder. Utter disregard of one's personal appearance was a sign of great grief for the departed. Men also at times wore a woman's dress instead of a man's in token of sorrow, and would shave half the hair off, or do it up in little bunches or knots, and shave the hair off the spaces between them. Some would rub their bodies with clay. The modes were many, and varied according to nearness or remoteness of relationship. I think in some cases they exhibited real sorrow, but in the majority of cases there was more noise and show, than grief.

Rarely did a man give way to crying, and if his dearest friend died (not his relative) he would exhibit no sign of mourning, not because he did not feel sorrow, but because he did not want to attract attention to himself as a person who mourned for one who was not his relative. It would have been most unusual, and besides if he had shown signs of mourning, folk would have constantly questioned him as to which of his family was dead.

The following notes I sent to the Folk-Lore Society in 1907, and they were published in their *Journal* for March, 1908:—

"One day I saw an old woman whom I knew very well, sitting in the centre of a ring of fire, and upon enquiry I found that she had had much to do with preparing a corpse for burial, and at the close of the ceremony she was purified by the fire being lit around her. In my unpublished dictionary of the Ngala language, I have the following word and its explanation: *Tumbujela*, to purify by fire a person who has touched a dead body. A ring of fire made of small sticks encircles the person, who takes a leaf, dries it, crunches it in the fist, and sprinkles it on the fire, moving the hands over the fire ring; when the fire goes out the *nganga* takes hold of the person by the little finger and lifts his or her arm, *amobili loboko,* and the person comes from the fire-circle purified.

"Walking one day in the Monsembe village I saw an incident that recalled Tam O'Shanter to my mind. There had been a death in the family, and the relatives had just performed all the necessary rites and ceremonies, and were returning to their homes. A small trench some twenty feet long was dug with a hoe. The relatives took up their position on the side of the trench nearest to the grave, the *nganga* stood on the other side, and his assistant was placed at the end of the trench with a large calabash of water. At a signal the water was poured into the trench, and while it was running the *nganga* took each person by the hand, and mumbling an incantation, pulled him or her over the running water. When all had been pulled over one by one the water was allowed to run until the calabash was empty. I asked the reason of the ceremony, and they told me it was to keep the spirit of their buried relative from following them."

At the funeral of a man there is more or less firing of guns, according to the importance of the deceased. This they say is to ensure for him a good entrance into *Longo* = the nether world, a place situated somewhere underground. When the departed spirits hear the firing they inquire who is coming, and look towards the entrance and prepare to give the new comer a welcome in proportion to the noise being made at his funeral. The spirit of the deceased waits near the entrance to *Longo* while they decorate his corpse, dig the grave, kill the slaves and wife who are to accompany him, then comes the firing, the entrance and the welcome. If the deceased has been a great fighter the family will arrange occasionally a sham fight in his honour for some two or three years after his death.

During the first few hours after the death of a woman nearly all her female neighbours and relatives cry as though their hearts were broken, but the next day they commence dancing, and continue to do so at short intervals for five or six days. The husband hires a professional dancer to act as master of the ceremonies.

If the family of the deceased man were troubled with much sickness, and a witch doctor said that it was due to the dissatisfaction of the spirit of such an one because no offering had lately been made to him, then the family would kill a slave as a sacrifice, and send him with a message to their troublesome relative, and a request that he would not cause them any further misfortune. We induced them to give up this custom, but the timorous ones compromised the matter by burying in the grave of their deceased relative some brass rods equal to the price of a slave. The occasion was as follows:—The river was rising rapidly and flooding the low lying town of Monsembe, and as the water rose higher and higher the headmen met together to decide what was to be done to cause the river to subside. I attended the conference, which lasted three hours. They suggested one reason after another for the flood, and at last they were of a unanimous opinion that the father of one of the men present was angry with his family for slighting him so long, and to show his disapprobation he had caused the river (River Congo) thus to rise, and the only way to secure its subsiding was to throw a human sacrifice into the river. I protested strongly against this murder, and pointed out to them that in order to stop the river from rising they should send their "rain doctor" 500 miles up river to stop the rain from falling, and thus allow the waters to subside. They answered that their "rain doctor" would have no power if he went so far, as he could stop the rain only in his own district. We had a long talk, and at last they were persuaded not to throw a person into the river. They compromised the matter, and got up a mimic canoe fight in honour of the dissatisfied spirit and scattered 600 brass rods in the river—the price of a slave—in lieu of a human sacrifice. A short time after the river began to subside and all were satisfied with the result of the conference and their compromise.

At a town above Monsembe on one occasion, some years before the above incident, they decided to throw a slave into the river and the one.selected was blind in one eye. He was thrown in, but somehow got loose and swam ashore, and told the people that the spirits did not want a one-eyed person, so they had set him free and sent him back. By his wit he saved his life.

The women mourned from three to six months according to the importance of their husband, *i.e.*, they put up a rough screen of rough grass walls near the grave and sat and talked and cried or chanted as they felt inclined. They were not supposed to go to their farms or pay visits, or engage in any of their former occupations, and as they could not go regularly to the farms their food was meagre so they were also said "to fast" for that period. At the end of the mourning and fasting they washed, donned their better dresses, and were distributed among the heirs of their deceased husband. See also Section XXXVII, WIDOWS.

If a slave committed suicide his master would throw his body into the river: but a free man who committed suicide was buried in a shallow grave with little or no ceremony because he had died by his own hand. Women were buried with the same ceremony as a man, and in accordance with their position in the town. When a woman dies, who is held in much honour by the other women in the town as a good farmer and one who has taught them much and frequently about farm work, and under whose leadership they have been successful, they will, a few days after her death, form a procession, decorate themselves with leaves and twigs, and dance and chant her praises through the town, and will then go to the farm and hoe up and plant a large bed of cassava for the use of the deceased woman's family. The family will supply the dancers with sugar cane wine for this festivity. This is called *Muntembe* from *ntembe*=stems of cassava plant.

In 1890 I saw in Bonjoko—a town just below Monsembe—the entrance to a house 6 feet by 8 feet paved with skulls, and it was customary not only to use skulls in this way but also to put the skulls of enemies at the base of palm trees, and to use them as foot stools. The desire was, by these indignities, to insult the fallen enemy, and to have some hold on the spirits of those slain in war that they might attend their conqueror in the spirit land, as seen above.

SUPPLEMENTARY NOTES TO PART I (*supra*, pp. 97–136).

Section II, p. 99. PERSONAL ORNAMENTS.

Re ornamentation during pregnancy. About three months before confinement the "medicine man" (*nganga*) ornaments the woman's body with coloured pigments such as white chalk, blue earth, and red camwood powder, and he ties some leaflets of palm fronds round the woman's neck. These pigments and frondlets are charms to ensure the easy delivery of a healthy child. "Medicines" are also rubbed on the woman's stomach to bring success to her husband and family in their hunting and fishing expedition; and the woman from the time of putting on the above charms must live in her own house, and have no further intercourse with her husband until the child is born and weaned. When the *nganga* has smeared the pigments, etc., on the pregnant woman he places a tabu on certain foods, but not the same for all women. One woman would not be allowed to eat one kind of fish, and another a different kind, while another might not be permitted to eat the flesh of hippopotamus, or goat, or antelope.

Section XI, p. 106. METALLURGY.

The social position of a smith among the natives was very high, and he was regarded with as much respect as a professional man is in Europe. The natives thought that the smith was not only wise and skilful, but that he practised witchcraft in order to perform his smithing properly. No one was allowed to step over a smith's fire, nor blow it with his mouth, nor spit into it as either of these actions would pollute the fire, and thus cause bad workmanship. Any person polluting the fire would have to compensate the smith by the payment of a heavy fine. A blacksmith taught his son the trade, but would not take an apprentice on any consideration. It must be remembered that the word "son" (*mwana lele*) covers a wider relationship than in English, as the male children of the smith's brothers and sisters would be regarded, and spoken of, as his sons, *i.e.*, all his nephews are his sons.

Section XIV, p. 113. FIRE.

When the natives wanted to make a new fire, as they did under certain conditions, they took a piece of Mopumbu tree for the lower stick and any kind of wood for the upper one. The top stick was not twirled but rubbed up and down the lower stick. This fire was called *mweya wa yanji*, *i.e.*, newly originated fire, not a fire lighted from another one; fetish fire was made by the above process. Some people would have their food cooked only by such a fire for fear of witchcraft.

Fire was extinguished either by pouring water on it, or by dividing the burning logs; but the *mweya wa yanji* was never voluntarily allowed to go out, but should the rain put it out, either a new fire was made by rubbing the sticks together (in more recent times with flint and steel, and in these days with matches) or was procured from a healthy person; but under no consideration from one who is being treated by an *nganga*, for to do so would be to run the risk of catching the sickness from which the patient was suffering.

To throw salt on a fire will cause a super-abundance of rain to fall. On the Lower Congo salt is regarded as causing the rain to stop when thrown on a fire, and is only resorted to when the farms are being destroyed by very heavy rains, and the efforts of the "medicine man" are not successful.

Witches are held responsible for the lightning; but when the *nganga ya buka* clasps his hands and says: "*ita!*", the lightning will pass without doing any damage.

There was a fire found in the forest called *mweya wa ngundu* = phosphorescence from dead wood, literally, the ape's fire, as it was supposed to have been left by the *ngundu* = the anthropoid ape.

Section XV, p. 114. FOOD.

The people ate a black, nice smelling mud called *nguna*. It was prepared by the Libinza people in thoroughly dried balls and sold to the Boloki folk at Monsembe, who if they ran short of it, would break a Libinza made saucepan and nibble off pieces of it until they were able to renew their supply of mud balls. The only reason given was that it was nice to eat. Pregnant women ate a light clay called *emolo*.

Many natives now believe that European salt (*monana*) causes sleeping sickness so they will not touch it, but use native made salt (*mokwa*) in its place.

Section XVI, p. 121. CANNIBALISM.

The Boloki folk ate human flesh for the pleasure of it, and the palms of the hands were regarded as delicacies, although the whole hand was said to have much fat in it. There was no euphemistic term for human flesh used among them; and the bones, after being picked, were thrown away anywhere. The women among the Boloki did not eat human flesh, and they neither cooked it nor touched it. The men cooked it for themselves in saucepans, specially reserved for the purpose, and, although they did not believe that the qualities of the person eaten were imparted to them, yet they thought that human flesh had a beneficial effect on those who ate it, for if a person had bad ulcers he would quickly lose them after eating such flesh. Human flesh was never eaten with cassava, but always with plantain, as the latter enhanced the flavour of the meat. In Mwenga and Budza both men and women ate human flesh together, and also in some parts of the Bangala district.

Dead bodies floating down the river were drawn to land and eaten by some, but not by all; some had no objection to eating relatives by marriage, and even their wives, but they never ate their blood relations. When fighting they would not eat one killed on their own side, but if they captured the body of an enemy they would eat it with gusto. I have seen them eat such, and I have known them bury those of their own side killed in a war. The mad and semi-mad would drink blood, and others, although they refused to drink it, would dip their hands in the blood of a slain person and smear it over their faces.

Section XVII, p. 122. NARCOTICS.

Sugar-cane wine.—See p. 119 for the mode of making, and customs relating drinking, sugar-cane wine. The drinking of sugar-cane wine made them "jolly" drunk, not mad and quarrelsome drunk as did imported spirits. Palm wine was drunk, but it was not a common drink as on the Lower Congo. *Jama,* an Indian hemp, was used, but very infrequently; but *bangi,* a hemp just imported from the Kasai River, is getting into favour. It has different effects on different folk: some become talkative, others stupid and quiet; some think they are going to die, and others dance and shout, while others again have frightening visions of the dead. These, together with tobacco, are only used by the men. During recent years snuff taking has been introduced from the Lower Congo.

Section XVIII, p. 123. HUNTING.

Re *hunting dogs.*—The *nganga ya bwaka*[1] takes the selected dog and puts in its mouth and nose the juice pressed from a crushed shrub, called *mumpongo,* to make it a good hunter. When such a dog dies it is not eaten like other dogs, but is buried in a mat like a child, for it is a fetish dog, and hence is supposed to have a kind of spirit, which if not properly treated will bring bad luck to its former owner.

The hunter who makes traps (*motambu* = noose traps) for bush pigs and burrowing animals must have no sexual intercourse from the time of making the trap until he has caught something in it, and has eaten it.

The natives thought that the spirits (*mingoli*) of the deceased who inhabited the forests had power to turn the animals aside from the traps, and render them ineffective, so the first thing to be done was to call the *nganga ya bwaka,* who brought his mats with his charms and some saucepans, and after going through a secret ceremony which lasted a day he procured the spirits of the locality where the trap was set (or was to be set) and shut them up in a saucepan. Again, all those concerned in the hunt must chew red pepper and the pulp of the *nsafu* fruit, and, if anyone refused to eat this mixture or could not spit it out properly, it was taken as an adverse omen, and they did not proceed with the hunt. When the *nganga* had shut up the spirits in his saucepan, and the omen was right, the man who started the proceedings and two or three friends went and put up the spear trap. From the time of putting up the trap until an animal was killed in it and eaten these men had no intercourse with women, otherwise their luck would be bad.

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[1] The functions of the various *nganga* will be explained in later articles.

These customs refer to the hunting of elephants, hippopotami, and other large game. The man who was responsible for erecting the trap led the hunt, and when the animal was caught no one touched it until the leader ripped open its stomach.

Section XIX, p. 125. FISHING.

Fishermen while making their traps (*moleke*) must not have any sexual intercourse, and this prohibition continues until the trap has caught some fish and the said fish has been eaten. The restriction may last some weeks or only a few days.

The following is an extension of the paragraph on *mwele* on p. 128 :—The river is full of spirits (*mingoli*) and if these heard the proper names of the fishers they might so work against the fishermen that they would catch little or no fish, so the fishermen hide their identity under the general name *mwele.*

Again, when a man lands with his fish the buyer must not address him by his proper name, but as *mwele,* or the spirits may hear it, and either mark him as one against whom they will use their influence another time, or they will impoverish the fish just caught, so that the man's chances of a good price will be lost. Hence he can make the one who breaks this rule pay him heavy damages, or compel him to sell the fish at a good price to restore his luck.

ON TEN'A FOLK-LORE. (PART II.)

By The Rev. J. Jetté, S.J.

The following notes are in continuation of my former article, published in the *Journal of the Royal Anthropological Institute*, vol. xxxviii, pp. 298–367.

Ałkéyar to-ledōye.

The Owl.

Nił-künka łledo, tsedeni. Rabe-ten'aka rulan. An-no-ted'oih,
A-married-couple cohabit, it-is-said. Their-children there-are. He-goes-hunting,
mizeni, ko ten'a. Te-tan, tsarałte an-no-ted'oih. Tse kū
it-is-said, the man. He-does and he-goes-hunting. And again
an-no-tałleyo, tōruno ko mo-'ot rałte ko-no-kedełkon. Tse ko mo-'ot
he-is-gone-hunting, while this his-wife she-is-sewing. And this his-wife
tłi niyo. Tse yutłi tłōtőkŏt tse-leyo. Niłkaatsen
out went. And riverward on-the-high-bank she-went. In-both-directions
Yūkőnă runatł'an. Arurūyeł rél'é yūtűră tânắnă ronten kŏr
on-the-Yukon she-looked. And-then maybe over across suddenly a-rabbit
na-ralerałtł, tsedeni. Arurūyeł yaka mo kőntŏkŏt kedałletłĕts.
is-running-across, it-is-said. And-then there(on) his shoulders a-black-thing-is.
Arurūyeł rél'é tadletlĕt: aruruyeł mo kontoko no-kodetortł.
And-then maybe she-broke-wind: and-then(from) his shoulders it-fell-down.
Tseyerotse rél'é yar ne-no-łleyo. Tseyerotse rél'é rałte
And-then perhaps (in) the-house she-went-back. And-then perhaps also
no-łletlun tse yudoo yurru ni-niyo. Ruyeł tuur ronten
she-dressed-up and down to-that-place she-went. Then there unexpectedly
nōlĕkőnă kedeniledűr, tsedeni. Tseyerotse yurru tlo y
blood is-scattered-over, it-is-said. And there a-dish in
roderélo, tsedeni. Tseyerotse ko te yar ye yeł no-ideyo.
she-gathered-it it-is-said. And-then(in) the her house it with she-went-back.
Tseyerotse yitłmāts, tseyerotse ko te-ten'aka eina rałte
And-then she-boiled-it, and-then these her-children(to) them also
tor-yiletlo. Tse tłĕdŏ rodādlelīdătsen ronten tetłektsen yi-ranīnōn.
she-distributed-it. And the-night not-being-passed suddenly all-of-them they-died.
Tseyerotse yi-no-rutlun, tseyerotse ra-no-kał-rarananilo. Aruruyeł
And-then she-clothed-them, and-then she-put-them-along-the-wall. And-then
rél' toruno atsar. Aruruyeł dzan roleł, tsedeni. Aruruyeł ko
perhaps meanwhile she-cries. And-then the-day passes, it-is-said. And-then the
ten'a no-ideyo. "Ne-ten'aka, istan, rodeninon," yełni.
man came-back. "Your-children, as-I-know, are-all-dead," she-says-to-him.
Dza-do-dadle'iha, rałte royidza-no-rodiletan. To-rotłoron ledo. Arurūyeł:
He-answers-not but he-cleansed-himself. After-this he-sits. And-then:
"To-deyorna to-dinina?" yełni. "Rabe rodeninon,
"What-happened-to-them whom-you-say?" he-says-to-her. "They are-all-dead,
rabeisni." Arurūyeł: "Ta-radeyortsen?" ni. Arurūyeł ko
I-say-of-them." Then: "What happened-to-them?" he-says. And then this
soltan te-deni: "Dzan notłi tlotokot tse-les'o, aruruyeł
woman says: "During-the-day riverward on-the-bank I-went, and-then

notura kor na-raleraɫtɫ. Aru ni-nes'o, aruruyeɫ tuura
over-there a-rabbit was-running-across. There I-went, and-then there

nolekon kedeniledűr. Aru tlo yi rodaraslo; eite yeɫ ko
blood was-scattered-about. There a-dish in I-gathered-it; it with here

no-neseyo. Eite raboro letɫmats: aruruyeɫ anteyi ta-radeyor."
I-came-back. That for-them I-boiled: and-then it-was-that they-died."

Tseyerotse te-deni, mizeni, ko ten'a: "Me yeɫ ketse
And-then he-said, it-is-said, that man: "Her with wrong

rodo-roderéɫtlak, totliten! Ken é? kɫéro kăkă lŏkőnă
it-has-gone-in-her-mind, this-one! What is-it? Truly an-animal's blood

nelantsen ūlīlĕtlĕt-é-ɫo ko te-neɫ'ane?" mizeni. "Dzan tan
it-being did-you-know that which-you-used?" he-says-to-her. "That-day indeed

yutura tan raka-ka-se-keradinerérak ru! Tse ta-rabeinɫlentse ei
over-there indeed I-was-struck-by-a-branch-in-that-place! And why-is-it that

rabe tse lido?" mizeni. "Ken yeɫ yi-raniyon, iru?
them near you-sit?" he-says-to-her. "What with have-they-grown-up, do-you-know?

To-ta'é rabe kontokot ra-no-yelilara?" Aruruyeɫ nőlkĕtɫă dza-niɫton;
Why-is-it their shoulders you-did-not-put-it-on?" And-then a-sack she-took-out;

eite yi ko ra ye yeɫ yi-raniyone eite raɫte ra-no-nilo.
it in the they it with grew-up that also she-put-near-the-wall.

Aruruyeɫ ronten yi-na-radideno. Tse yur raɫtsen ra-rōleɫ,
And-then suddenly they-came-back-to-life. And about evening it-is-getting,

tsedeni. Arurūyeɫ rél'é ko ten'a ronten dza-raniyo, tsedeni: "Ledô',
it-is-said. And-then perhaps the man suddenly spoke-out, it-is-said: "She-sits,

totɫiten!" tsedeni; "kaka anteit niɫküdzaten ni-taltlete!
that-riverward-one!" he-says; "animals it-is a-short-while-ago which-nearly-died!

Ken me ko taldaɫ, iru?" yeɫni. "Netur, me yel taka
What her from has-come-forth, what?" he-says-to-her. "Quick, which with up

rőɫtlŏ kararénɫ'o kantaye, raboro ido no-raniɫnih, nor săkăihă
the-sled-braces you-prop it-seems, for-them inside bring-again, these children

kün yan yi-niɫ'ihna!" mizeni. Aruruyeɫ tɫi talyo,
fire only who-see!" he-says-to-her. And-then out she-went,

keyi no-dōleniktsen. Dzan ma kala. Aruruyeɫ rél'é ido
having-put-on-her-mittens. The-day, she is-not-there. And-then maybe in

no-ideyo. Lerēna tonitse rălắrtɫĕ, me totse radetodle, nedo
she-came-again. Silver-salmon in-midstream running, its back slashed, inside

no-ilekut; tĕ-tĕn'ăkă tor yiltōtɫ; toruno ye tŏrőn kaɫ nāltĕɫ,
she-brought; her-children to she-distributed-it; and its breast half she-cut,

eite tɫītɫ ka ne-datɫkūt, eite ye tse ni nitlak (ei to-kűn tse).
this embers on she-put, this him to she-placed (the her-husband to).

Zesādletűk. Zĕlĕtűk, tse yur niɫnaɫru mor kesaltut. To-rotlor
He-began-to-suck-it. He-sucks-it, and some long-while at-it he-sucked. There-after

rél’é yunortse ni no-yiniton to-’ot tsen. Tetłektse ło-diłta. Tuur
may-be from across he-put-it-back his-wife toward. Entirely it-is-whole. There

yenił’an, roré’on to-roko. Aruruyeł ko mĕ dŏrŏł-tłĕn
she-looks-at-it, it-has-been-eaten to-find-where. And-then this its fin-bones

lōyīt ranidetūt rōzā̃, to-rudokōtł rōzā̃. “Ken é? rén’on-ło
at-the-end-of has-been-nibbled slightly, it-is-whitish slightly. “What? did-you-eat

ko te-neł’ane?” yełni. “Ho! ras’ontse antei tetł’an,”
this which-you-had?” she-says-to-him. “Yes! I-ate-it therefore I-give-it-back,”

yełni. Tse rél’-ko tłete rorélet. Eite kodonte rałte
he-says-to-her. And then-maybe the-night passed. The (next)-morning then

an-no-salt’ots, tsedeni. Tena ade dzan roleł. Aruruyeł
he-went hunting-again, it is-said. Us (=him) without the-day passes. And-then

yutoko kŏkŏkă-kał royi tserĕran, tsedeni. Yido no-tsit’ots.
up a-fore-quarter in-the-hole we-brought, it-is-said. In we-came-again.

Tsorotadlenek. “Ko-rud’oktse to-roslila,” tsedeni. “Yerotse yurru
We-gave-the-news. “That-could-be-carried I-did-not,” we-say. “Thus thither

ni-sodeł lĕtsĕn,” tsedeni. Rałte ketātłmāts, mizeni, ko soltan.
we-shall-go all-together,” we say. And she-boiled-some, it-is-said, the woman.

Rałte yen-keré’on. Tłete rorélet. Eit kodonta rałte yurru
And they-ate. The-night passed. The (next)-morning then thither

ni-rataldatł, rabeizeni. Tseyerotsarałte yurru ni-ranidatl. Yurru
they-began-to-go, they-are-said. And-then there they-came. There

raditadletłé. Yet rotsen rałte neñkoka-murulane te-tatł’an,
they-began-to-stay. There from also things-that-are-on-earth-(game) he-began-to-catch,

mizeni, teniga. Tłŏrŭlŭkŏkă a-rultlattsen, tsedeni; tse
it-is-said, moose. The-hard-crust-time having-come, it-is-said; and

kotā̃, tłorulukoka a-rultlat. Aruruyeł ko soltan, mo-kũn
now, the-hard-crust-time has-come. And-then the woman, her-husband

an-no-tałleyo toruno, tłĭyĕkă ledo, mizeni. Aruruyeł ronten
is-gone-on-the-hunt while, at-home stays, she-is-said. And-then suddenly

mor tseni’ots, mizeni: “Rode no’o no-kũn
to-her we-came, she-is-said: “You-know yonder your-husband’s

mu-ura titsan ā̃ră altli,” mizeni. Tseyerotse rél’é
elder-brother starvation by died,” we-say-to-her. And-so perhaps

taltsar, mizeni. Aruruyeł rél’é mo-kũn no-ideyo. “Rode
she-began-to-cry, she-is-said. And-then maybe her-husband came-back. “You-know

nu-ur istan titsan ara altli,” tsedeni. Aruruyeł tadle’ih,
your-elder-brother indeed starvation by died,” we-say. And-then he-said “Hé!’

tsedeni. Royidza-no-rodiletan, dza do-dadle’iha toruno. To-rotłoron ronten
it-is-said. He-cleansed-himself, he-answers-not while. Thereafter suddenly

dza-raniyo, mizeni. “A! hé! to-dini tan?” mizeni. “Rode
he-spoke-out, he-is-said. “Ah! hey! what-say-you then?” he-says-to-her. “You-know

nu-ur istan titsan ara altli, mizeni," yełni ko
your-elder-brother indeed starvation by died, he-is-said," she-says-to-him this

mo-'ot. "Ken é tse to-dinitse eit yerotse rō̆rŏn netsar?" yełni.
his-wife. "What is-it that you-say that this for you-cry?" he-says-to-her.

"ō̆rŏtĕn tena robā̆dză tena tlo yełkeke kăt, isi.
"Last-year (what) our aunt (mother-in-law) us to gave-to-eat he-wants, that-is-it.

Ałkéyar ra-no-to-tsenełtaih: to-rotonił? to-rōletsŏre
Under-the-shelter-of-trees we-have-our-backs-leaning: what-shall-we-do? what-an-amount

yi-tsi'ihtse nŏrō̆n! Orotse rōnit me yeł ketse rodo-roderéłtlak,
we-eat here-now! This on-account-of her with wrong it-has-gone-in-her-mind,

to-tłiten!" mizeni. "Sakaih yokalayu kéł-diłtana yar
that-riverward-one!" he-says-to-her. "Children poor-dear one-together in-the-house

dadletłéten, yō̆ rŏ suu atsar-é totłiten!" Tseyerotse rél'é
they-stay-where, him for perhaps she-cries, that-riverward-one!" And-then maybe

yet rałte tu ka rarédak, rabeizeni. Tseyerotse rałte midoy
then too water for they-waited, they-are-said. And-then also canoes

yi-iron, rabeizeni; tseyerotsarałte dza rataldatł, tse yutłi
they-made, they-are-said; and-then-also out they-started, and at-the-main-river

rałte dza ranidatł, rabeizeni. Aruruyeł mĕ-lĕnyū yet dadletłé,
then out they-came, they-are-said. And-then his-brothers-in-law there are-staying,

me nō̆tĕbă; tseyerotse rél'é na-rataldatł. Tłi-to ronidzet
him waiting-for; and-then probably they-(all)-started. (To) straight-water middle

ranidatł, tseyerotse rakał, rabeizeni. Aruruyeł rél'é ro
they-came, and-so they-paddle, they-are-said. And-then perhaps a (his)

kō̆kĕn talrū̆k, mizeni. "Se kō̆kĕnă tar tso rodū̆rŭdărā̆ł!"
shoulder was-cramped, he-is-said. "My shoulder the-bottom toward must-throw-itself!"

Arurūyeł yudotse dinatłkōtł, tu yit tso rokedōletlĕt, tsedeni.
And-them from-below it-began-to-blow, water in to the-wind-struck, it-is-said.

Tseyerotse rél'é zī̆tă, tōt lā̆kă dza nikan, mizeni. Tseyerotse
And-then maybe hardly, waves between, out he-canoed, he-is-said. And-so

ni-ro nikan. Te-ten'a kéłoken tsei yi atłdo. Rō̆łtĕmĕts, mizeninen.
to-land he-canoed. His-son one the-boat in he-has. Broadsled, who-is-called.

Eit rałte nolā̆ya no-rétkok. Tseyerotse ko te-ten'a Rołtemets rałte ro
There then a-salmon he-put-to-roast. And-then this his-son Broadsled also to

ni-niłtan. "Rołtemets!" mizeni, "todoo ko-tarasakak," mizeni.
he-placed. "Broadsled!" he-says-to-him, "below I-shall-canoe," he-said-to-him.

Aruruyeł ko Rołtemets te-deni: "É'é, to-medini," yełni. Tseyerotse
And-then this Broadsled says: "Yes, as-you-say," he-says-to-him. And-so

yudoo ni-ko nikan, mizeni. Yudoo rakał, mizeni. Arurūyeł
downstream off he-paddled, he-is-said. Downstream, he-goes, he-is-said. And-then

yudoo ronten mo-'ot tŏ-nĕlā̆rĕ ūtū̆n, mizeni. Yor ni-nikan, mizeni.
down suddenly his-wife a-snag holds, she-is-said. To-her he-paddled, he-is-said.

Arurūyeł: "Nĕtṻră; kedo-seteréłtal to-roron!" yełni ko mo-'ot.
And-then: "Thank-you; you-will-save-me in-order-that!" says-to-him this his-wife.

Aruruyeł mor ni-tsokał toruno te-mizeni: "Rṏdĕ nă'ă ye-no-rodōt'ane,
And-then to-her we-paddle while we-say-to-her: "That my-mother used-to-see-which,

tĭ̄tsĕză ātĕ rātā̆t ō̆kō talĭ̄nīkte ło te-dini?" mizeni.
always perhaps for you-having-worked is-it-that you-say?" we-say-to-her.

"Eite zō-ło neñkoka tolōł! Tłā̆ rădĕ ko kedo-siłtaih,"
"Those indeed on-earth will-be-many! Delay without now save-me,"

mizeni. Ku yurru mo ron na-kana-tsodetlihtłtsen: "Rode na'a
we-say-to-him. Again there her to addressing-again-our-words: "That my-mother

ye-no-rodot'ane, nō̆mās zō̆kŏł ate rata oko talinik-é?"
used-to-see-which, the-round-knife at-least always perhaps for did-you-work?"

mizeni. "Eite zo-ło neñkoka toloł," ni, mizeni.
we-say-to-her. "Those indeed on-earth will-be-many," she-says, she-is-said.

Ku yurru mor na-kana-tsodetlihtł, mizeni: "Rode na'a
Again there to-her readdressing-our-words, we-say-to-her: "That my-mother

ye-no-rodot'ane, łĭ̄tsăă zokoł ate rata oko talinik é?" mizeni.
used-to-see-which, the-bitch at-least always perhaps for did-you-work?" we-say-to-her.

"Eite zo-ło neñkoka toloł," ni. "Tse ku to-dini ără̄?"
"Those indeed on-earth will-be-many," she-says. "And again what-nonsense-you-talk?'

mizeni. Tse mo rŏn lo-tsărădā̆dlĕrā̆ł. Aruruyeł yudoo taka
we-say-to-her. And her to we-struck-the-hand. And-then down-river up

no-kē̆ih-lărā̆ł, kā̆dĕyō̆r. "Ken-'a?" tsedeni; "na'a
a-birch-log-bobbing, she-became-like. "What-is-it?" we-say; "my-mother

ye-no-rodot'ane oko talniken rél'é nor te-deninen-é?" Ra-no-tsidakan,
used-to-see-which for one-who-worked perhaps that one-who-speaks?" Up-we-canoed-back,

tsedeni, eit rotłoron. Ko yune'u ro-ten'a ro no-tsidakan, tsedeni.
it-is-said, there after. There up-above our-son to we-canoed-back, it-is-said.

Aruruyeł: "Rołtemets!" mizeni; "yunła-yune'u ne-l'ayu rabor
And-then: "Broadsled!" we-say-to-him; "landwards-above your-uncles to-them

ne-ne'oih-a?" mizeni; "nedator karadela tso-roko," mizeni.
will-you-go?" we-say-to-him; "to-what-purpose they-sing to-find-out," we-say-to-him.

Rałte yunła-yuni rotsen dza-rălĕyā̆r, ĭ̄tłăk, tsa-rar'ana. Rołtemets
For inland-above from they-dance, it-is-heard, on-account-of-which. Broadsled

yunła-yune'u talyo, tsedeni. Yunła-yunit ror-ni niyo, mizeni.
inland-above went, he-is-said. Inland-above to-them he-came, he-is-said.

"Rode ne-to?" rayełni ko me-l'ayu. "Nodoo ista ledo,"
"Where-is your-father?" they-ask-him these his-uncles. "Down-here I-know he-is,"

yełni. Ra ye noroł kederéli, rabeizeni. Tseyerotse yudo
he-said-of-him. They him in-presence-of sang, they-are-said. And-then down

no-tałleyo, te-to tsen, mizeni, ko Rołtemets. Ko yudoo te-to
he-started-back, his-father to, he-is-said, the Broadsled. There below his-father

ro no-ideyo, mizeni. " Rołtemets ! " mizeni, " ne-l'ayu nedator
to he-came-back, he-is-said. " Broadsled ! " we-say-to-him, " your-uncles to-what-purpose

karadela ? " mizeni. " Se-l'a kéłoken, ode istan : ' Mĕn-łă-rălĕzā̆k
sing-they ? " we-say-to-him. " My-uncle one, he I-know : ' Soft-to-the-touch

kantaye teṅa katse yi-rétkek,' mizeni." Aruruyeł ko me-to
a-thing-like us upon she-did-put,' we-say-of-her." And-then the his-father

ronten te-deni, mizeni : " Ken é ? nĕdōdō̆n ko ta-raradeni ? "
sharply says, he-is-said : " What is-it ? when (was) this which-they-say ? "

mizeni. " Kéłte royan nĕka-kō-tān tłēyū̆k kantaye yi
he-said-to-him. " Once only long-ago birch-cradle a-thing-like in

tłé-setseréłtlih ! Nelo rătānen ło kū eit ! " mizeni.
we-did-put-my-head ! Manual-skill one-who-had is-that also there ! " he-says-to-him.

" Se-l'a kē̆łŏkĕn rałte, ni : ' Yurru nĕdōdō̆nyĕ ara dza-no-tenaréłdar,
" My-uncle one other, he-says : ' Some-kind-of-old-thing with we-surprised-us,

ka-te-tenaréł'an.' " Aruruyeł ko me-to te-deni : " Orotse rŏzō̆ rél'é
as-it-were.' " And-then the his-father says : " Thus indeed perhaps

ta-rayełni 'é," mizeni. " Tła nonła rabor ne-taras'oł," tsedeni.
they-say-of-her is-it," we-say-to-him. " Wait over-yonder to-them I-shall-go," we-say.

Yunła-yune'u sal'ots, tsedeni. Yunła-yune'u tseni'ots, tsedeni.
Inland-above we-started, it-is-said. Inland-above we-came, it-is-said.

" Se-lenyu, se noroł kedorli," rabeizeni. Karadetaltli.
" My-brothers-in-law, me in-presence-of sing," we-say-to-them. They-began-to-sing.

Aruruyeł kōt nelo roni-rodā̆d'onten eit ra-zesā̆ltli. Aruruyeł :
And-then there manual-skill her-possessing there they-sang. And-then :

" Se-lenyu, tła sūlā̆lŏrłtłō̆n," tsedeni ; " ken é nedodon nelo
" My-brothers-in-law, a-while listen-to-me," we-say ; " what is when manual-skill

ratan ? " mizeni. " Kéłte royan neka-ko-tan kłéyuk kantaye yi
had-she ? " we-say-of-her. " Once only a-long-time-ago birch-cradle a-thing-like in

tłé-setseréłtlih, ei ko keréłkut me-dorninen. Orotse rozo rél'é
she-put-my-head, the one was-saving whom-you-say. Thus indeed probably

te-medorni'é ? " mizeni. " Se-lenyu, nodoo ni-ro neskan,
are-you-saying-of-her ? " we-say-of-her. " My-brothers-in-law, here-below to-land I-canoed,

tseyerotse nodoo kél yoza-késa ro rodetłkon toruno nodoo ni-ko
and-then there the-boy small-dear to I-built-a-fire while downstream off

neskan. Tse nodoo raskał, aruruyeł yudoo so-'ot to-nelare utū̆n.
I-paddled. And downstream I-go, and-then down my-wife a-snag holds.

Tse mor ni-neskan. Aruruyeł so-'ot te-sełni," mizeni, " ' Nĕtū̆ră,
And to-her I-paddled. And-then my-wife says-to-me," we-say-of-her : " ' Good,

kedo- seteréłtał to-roron ! ' sełni. Mor ni-raskał toruno
you-will save-me in-order-that ! ' she-says-to-me. To-her I-paddle while

te-misni : ' Rode na'a ye-no-rodot'ane, titseza zokoł, ate rata
I-say-to-her : ' That my-mother used-to-see-which, at-least, always perhaps

oko talinikte ło te-dini ?' misni. Aruruyeł so-'ot te-sełni :
for having-worked is-it that-you-say ?' I-say-to-her. And-then my-wife says-to-me :

'Eite zo-łon neñkoka toloł,' sełni," mizeni. "Yurru
'Those indeed on-earth will-be-many,' she-says-to-me," we-say-of-her. "There

mor no-kana-rasetlihtłtsen : 'Rode na'a ye-no-rodot'ane, nomas
to-her addressing-again-my-words : 'That my-mother used-to-see-which, the-round-knife

oko talinikte ło te-dini ?' misni. 'Eite zo-ło neñkoka
for having-worked is-it-that you-say ?' I-say-to-her. 'Those indeed on-earth

toloł,' sełni," mizeni. "Yurru kun mor no-kana-rasetlihtłtsen :
will-be-many,' she-says, we-say-of-her. "There again to-her addressing-my-words-again :
(to-me)

'Rode na'a ye-no-rodot'ane, łitsaa zokoł, ate ratat oko talinikte
'That my-mother used-to-see-which, the-bitch even, always perhaps for having-worked

ło te-dini ?' misni. 'Eite zo-ło nenkoka toloł. Netur
is-it-that you-say ?' I-say-to-her. 'Those indeed on-earth will-be-many. Quick,

tła raden ko kedo-siłtaih,' sełni. 'Tse ku to-dini ara ?'
delay without now save-me,' she-says-to-me, 'And again what-nonsense-you-talk ?'

misnitsen mor ła-radalegarał. Aruruyeł so-'ot yudoo nĕtsōlā̆yă
saying-to-her to-her I-hit-the-hand. And-then my-wife down a-water-weed

ko-ī̆lī̆n kā̆dĕyō̆r." Rodo-kezeréon : "So-'ot kĕtsā̆n tor
carried-by-the-stream became-like." He-began-to-sing : "My-wife the-grass among

serétta kă te-serétlin," tsedenitsen. Kezesaltli ; aruruyeł ko me-len
put-me as it-were," saying. He-sang ; and-then the his-brother-in-law

rā̆rătăka kĕtłŏkū̆n tadleyĕł ; eite ara ye tłé kedenerétrał, tseyerotse
middle-one an-ember seized ; this with his head he-hit, and-thus

dikon. Tse nonłet ka dā̆dŏkŏn. Aruruyeł ronten ałkéyar-to-ledoya
he-caught-fire. And inland he-burnt-to-ashes. And-then suddenly an-owl

kū̆n yi tsen dza denā̆lĕnĕn. Eite noneka nuyit denolenen. Tseyerotsen
the-fire in from out came. This inland in-the-bush went. And-so

yudoo rataldatł, ko ratō̆za, Rołtemets, tsen. Aruruyeł yudoo
downstream they-started, the their-nephew, Broadsled toward. And-then down-there

ronten kĕdzā̆rkă dza no-netor. Eite ko kün tsen mo-roni-kōle'oye
suddenly a-camp-robber out flew. This the fire near put-to-roast-on-a-stick

nolāya t'āł mĕdă niłkootset na-a'ih ; tseyerotse ra yor ni-nidatł :
salmon roasted belly whole was-eating ; and-so they to-him came :

"ō̆nĕ !" rayełni, iru ; noneka tī̆kŏ no-natok. Aru ra ya
"Come !" they-say-to-him, in-vain ; inland to-the-woods he-flew. Then they him

ka tiko nidatł. Ka-rayenałledātł : rabe kootse kĕtsă'ā̆n
after in-the-woods went. They-chased-it-about : them ahead-of here-and-there

ne-yenetok. Ra ya ka ko-idedał, nonekā̆ ; ra ya ka ał
he-flies. They him after go-about, far-inland ; they him after spruce

nuyit nałledatł. Tseyerotse rabe yeł ketse no-rodenadlenen, aruruyeł
among wandered. And-so them with wrong the-head-went, and-then

korōlerōn, ŏrōdé kŏr. Roih ron nekū̆ts.
they-became-beasts, they too. Winter a-part-of is-short.

The Owl.

A husband and his wife were living together, with their children. The man was a hunter: this was his main occupation, and once, when he was away on the hunt, his wife was at home sewing. She went out, and walking the top of the high bank, she looked exploringly up and down the Yukon. Then she descried a rabbit which was running across the river. There was something black on his back, just above his fore-legs, and then the woman broke wind, upon which the black thing fell from the rabbit's back. She went back into the house, and having dressed herself up, she went to the place where this had happened. There she found clotted blood scattered all over. This she gathered into a dish and brought back to the house. She boiled it and fed her children with it, and before the night had passed all the children died. Then she dressed the bodies and laid them along the wall, reclining against it. And she wept.

After the day had nearly passed, the husband returned, and she said to him: "Your children, alas! are all dead." He answered not a word, but he washed and cleansed himself and then he sat and said: "What were you saying about them?" She replied: "I said that they are all dead." "How did it happen?" said he. Then she told him: "I walked to the top of the bank," said she, "and saw a rabbit crossing the river; I went to the place and found clots of blood scattered about; I gathered them in a dish, brought them into the house, and boiled them for the children: that is how they died." Then the man exclaimed: "Oh! this woman is really getting crazy! How did you know that it was really an animal's blood, to make that use of it? At that very time I was struck in the face by a branch. And now why do you stay by them, doing nothing? With what have they been brought up? Why did you not put it on their backs?" Then she took a sack, and produced from it the collars with which they had been brought up, and put them on the bodies near the wall. And, suddenly, they all came back to life.

The evening came. The husband suddenly broke the silence and said: "Oh! the lazy one! wouldn't you think that those who were so near to their death, a short while ago, are but common beasts? what sort of beings did she give birth to? Hurry up, and bring in for them the things which you hide so carefully that you seem to use them as props for the sled-benches. Those poor children never see anything (of the cooking) but the fire!" Then she put on her mittens and went out, for a long while. When she came back she brought a silver-salmon that had been caught in midstream, and had been carefully cut all along the back before being dried. This she cut into pieces, which she gave to the children, reserving one side of the breast, which she put on the embers and then gave to her husband. He began to nibble at it, again and again. He nibbled for a long while, and then gave it back to her. It appeared as if it had not been touched. She examined it, trying to find the trace of a bite on it: there was only the tip of the fin, that had a whitish appearance; it had been very slightly nibbled at. "Have you eaten any of this, that you hand it back to me?" she said. "Yes," he answered, "I ate before returning it to you." And so the night passed.

On the following morning, he went off again for the hunt. He was away the whole day. In the evening he came, and through the opening at the top of the house he let down a front quarter of deer. Then he entered and told about his success. "I had too much to be able to carry it all," said he. "We shall all go to the place where you left it," they said. And the woman boiled the meat, and they all ate. The night passed, and in the morning they started, and they came to the place, and they camped there.

From this camp he used to go, as from his former place, for hunting trips, hunting moose. The spring came, and it was the time of the hard snow-crust. One day that he was out as usual and his wife at home, some one came to her in the house and told her: "Your husband's elder brother has died of starvation." At this intelligence, she began to cry. When her husband came back, she said to him: "I heard to-day that your elder brother has died of starvation." He simply muttered: "Hey!" and without saying more he proceeded to change his clothes and cleanse himself. Then he spoke and said: "Ah! hey! what did you say?" and she said again: "Your elder brother is said to have died of starvation." "Oh!" said he, "and what is the use of your crying over it? Evidently he did not receive any food from our aunt, as we did last year. As for us, here we are, sitting in the shadow of the spruce-trees, leaning our backs against them: what should we be doing? We have too much to eat, and that is why this woman is becoming crazy and talking nonsense. Why does she cry about him, when we are living well with our dear little ones?"

There, they waited for the river to break, and having built their canoes, they floated downstream to the main river. There he found his brothers-in-law, who were waiting for him, and all together, they started. They were floating down in mid-stream, paddling along, when suddenly he felt a cramp in the muscles of his shoulder, and explained: "Oh! my shoulder must get into the water!" As he said this, a sudden gale struck them, blowing upstream and raising high waves on the river. With great difficulty he made his way, between the waves as in a narrow pass, and came to land. There he built a fire, and put a salmon before it, to roast on a stick. He had one of his boys in the canoe with him, who was called Broadsled. He gave him the fish to eat, and said to him: "Broadsled, while you stay here I will go down in my canoe and take a look around." "All right," answered the boy, "do as you say." And the man paddled off and started downstream. And after he had gone some distance, he beheld his wife in the water, holding fast to a snag. He paddled towards her: "Good!" she exclaimed, "you come to my rescue!" But, as he was paddling in her direction, he addressed her, saying: "The 'titseza' which my mother had always her eyes on, did you ever do much work on them, that you speak so confidently?" "Bah!" she said, "there will always be plenty of those on the earth. Delay not, and rescue me!" But again addressing her, he said: "And the round knife, which my mother never lost sight of, did you do much work with it?" She replied: "Oh! but there will always be enough of those on this earth." And again he addressed her and said: "And the bitch, of which my mother was so careful, did you take much interest in it?"—"But," said she, "there will always be enough of those on this earth." "Is this your only answer?" he said, and he hit her hands with a stick and she let go of the snag, and down she went with the stream, bobbing up at times above the water, as a birch log drifting down. "What of it?" he said, "was she one to mind those things of which my mother took such a great care?"

After this he canoed back up to the place where he had left his boy. His brothers-in-law had landed further up, in a bend. He called to the boy: "Broadsled!" said he, "will you go up there, and find out what your uncles are singing?" For the echoes of a mourning celebration were coming down to them, from the camp above. So Broadsled went, and he came to the place where his uncles were, and they asked him: "Where is your father?"—"Down here, at a short distance," he said. And he heard their songs and went back to his father. He asked the boy: "Broadsled," said he, "what is the burden of your uncles' songs?" The boy answered: "One of them sings: 'Oh! the fine, glossy, soft parkies, which she used to make!' thus he sings." "What!" exclaimed his father, "do they say such a thing? She never made me but one parkie, a long time ago, and when she put my head into it, it was like a birch-bark cradle. And they praise her for her skill!" "Another of my uncles," the boy continued, "is singing: 'How often she surprised us by producing the food which she had kept so long in the cache that it had been forgotten!'" "This sounds better," said his father. "Wait a while, I shall go to see them," and he went. Having come to their camp he said: "My brothers-in-law, let me hear your songs." And they sang. They sang of her handiwork and her skill. And he said: "My brothers-in-law, hear me a moment. Why! she wasn't skilled in the work at all. Once only, and that a long time ago, she made a parkie for me, and when I put my head into it, why! it was like getting into a birch-bark cradle! But you are right when you say that she was very saving. My brothers-in-law," he continued, "down here, at a short distance, I landed, and having built a fire for my dear little boy, I canoed further down, and found my wife, in the water, holding fast to a snag. 'Good!' she said, when she saw me coming, 'you come to rescue me.' Drawing nearer, I said to her: 'Did you ever work much for the "titseza" of which my mother was so careful? Why do you speak so confidently?' and she said: 'But there will always be enough of those on this earth!' Again I addressed her and said: 'And the round knife which my mother never lost sight of, did you work much with it?' She replied: 'But there will always be enough of those on the earth!' And again I addressed her and said: 'At least the bitch, which my mother always kept an eye on, did you take great care of it?' She answered: 'But of those also there will always be enough on earth. Delay not, and rescue me.' I said: 'Is this your only answer?' Whereupon I struck her hands with a stick, and she lost her hold, and floated down as a water-weed that has been pulled off its roots." And then he began his own song: "My wife has left me to lie on the grass!" But as he sang, the second of his brothers-in-law grabbed a burning stick from the fire and hit him on the head with it, and the man began to burn. There, in the brush, he burnt to ashes, and from the smouldering embers a small owl flew out, towards the woods, in the underbrush he flew. But they went down to the place where was their nephew, Broadsled. Oh! wonder! there was only a camp-robber, picking at the belly of salmon which was roasting on a stick by the fire: he flew away as they came. They went after him, calling him, but he wouldn't come. They followed after him in the woods, and chased him about, but he evaded their pursuit. Farther and farther in the woods they went, and they lost their way. Their heads went swimming, they were dizzied, and they too were changed into animals. A part of the winter is become short.

Notes.

"ałkēyar to-ledōye," lit. the thing that perches on the lower branches of the spruce. The term is applied to a small species of owl, hardly more than eight inches in height. This bird is supposed to possess preternatural powers, and anyone who would attempt to kill it, would run the risk of his own life, according to the Ten'a belief. They propitiate him by greasing his tail, as he is easily approached in the day-time.

"rabe-ten'aka rulan," their children there are, *i.e.*, they have children.

"mizeni," it is said, lit. we say of him, the first person plural in its indefinite meaning. The ever occurring forms: "mizeni, tsedeni," etc., are especially characteristic of the extreme lower dialect, where they are used three or four times in every narrative sentence. As will be noticed, they are frequent also in the lower dialect as shown in these stories.

"te-tan tsarałte an no-ted'oih," he does and he hunts; or, perhaps better: "te-tantse rałte an no ted'oih," and he, doing, hunts. The meaning is that "his occupation is to hunt."

"kū," again, for "kūn." A lower dialect form, occasionally also used in the upper language.

"ko mo-'ot rałte," but his wife, on the other hand his wife. . . . In such constructions, "rałte" simply denotes an opposition between the clauses, as here: he hunts, but his wife does something else.

"Yūkŏnă," the Yukon. This is the only instance in which I heard the word in a merely Indian context; it seems to be a Ten'a word, signifying the main river.

"rél'é," is used in the lower dialect with a very undetermined meaning, and can be generally omitted in the translation.

"tānāna," in upper dialect: "tonāna."

"tsedeni," see above, the note on "mizeni."

"mo kōntŏkŏt," his shoulders. "Kontokot" is properly the space between the shoulder blades.

" kedāłĕtłĕts," a black thing is, lit. something is black.

" nōlekōna," a lower dialect form of " lokōna," blood.

" tlŏ," for " tlok," dish.

" yitłmāts," she boiled it, the lower form of " yitłbats."

" te-ten'aka eina rałte tor yiletlo," her children to them she gave it around. The repetition of the pronoun " eina " after the noun is a turn of the lower dialect; an upper speaker would say: " te-ten'aka rałte tor yiletlo," and she gave it to her children. Most of the lower speakers would have used " oina " for " eina," but the narrator had been among the upper tribe, and had lost this peculiarity, which is ridiculed by the upper speakers.

" tłedŏ," for " tłete," night.

" īstān," the lower dialect form; the upper dialect uses " tāsĭ." Both are formed of the same two words " ĭsĭ," indeed, here (Latin: *en, ecce*), and " tān," to my knowledge. In the lower form we have " isi-tan," becoming " istan "; and in the upper form " tan-isi," becoming " tasi." The words imply that the speaker is sure of what he says.

" royidza-no-rodiletan," he cleansed himself, *i.e.*, he changed his clothes.

" me yeł ketse rodo-roderéłtlak," it has gone wrong with her in her mind, lit. in her speech (" do "). The speech is sometimes used to signify the mind, of which it is supposed to be a picture. The expression is proper to the lower dialect, in which the root " tlar," " tlak," can be substituted for many others in expressions of contempt.

" totłiten," the one on the river side. He alludes either to the fact that the wife commonly sits on the river side of her husband, or to the casual position which she now occupies. If he means the first, the expression is familiar, but it is offensive if he means the second, because it implies a shade of contempt and disregard.

" raka ka se-keradinerérak," a very obscure phrase, explained by the narrator as meaning: " a branch struck me in the face," which is an evil omen.

" ta-rabēinłĕn," lit. what do you abstain from doing to them? The verb " tetłen " expresses the not doing something to some one, the not acting on the object when you would be expected to act.

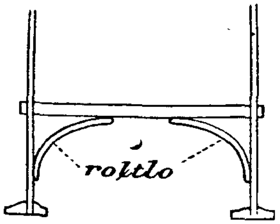
" mizeni," lit. we say to her. The first person plural, in its undetermined meaning, used for the third singular. This is quite common in the lower dialect, and the remark need not be repeated in the future instances which we shall meet.

" ra-no-yelīlāra," the word contains no other allusion to collars or necklaces than the being placed around (" ra-no,") but the preceding " rabe kontokot," on their shoulders, completes the meaning.

" ledô'," she stays (idle), with a strong emphatic drawl on the " o." He gives a scolding to his wife. The first sentence, which is properly the scolding, is in the third person, for when a Ten'a scolds he never addresses the person directly, but speak of her or him in the third person. Even parents scolding their children observe this rule of etiquette.

"ni tāltlĕte," which died. The verb "ni neslit," which properly means "to come to a stop," is used for "to die," but the phrase is proper to the upper dialect and it is strange that it should occur here. One might infer that the expression was formerly common to both dialects.

"me yeł taka rŏłtlŏ kararẽnł'o kāntăye," the things with which you seem to prop the bottom braces of the sled, *i.e.*, the food which you keep so well concealed. He reproaches her for keeping the food hidden and not giving it to the children. The "rołtlo" were curved braces, which, in the old-time sleds, were lashed to the stanchions at their lower end, and to the benches of the frame, at their upper end. They are no more in use now. Being practically hidden from sight, they are taken here, as a term of comparison, to imply that the food alluded to is even more concealed.



"kũn yan yi-nīł'ihna," who see only the fire, viz., there being no food cooking on it.

"dzān," the day, viz., the remaining part of the day.

"lerẽna," silver-salmon, a lower-dialect word. The fish is here described as having been caught in midstream ("to-nidze") or, perhaps, above the place ("tonitse,") and dried. To dry the silver-salmon the natives make in the flesh of the back a series of parallel cuts, obliquely to the middle-line. These cuts are a proof that the fish has much flesh, otherwise they would be to no purpose. Their mention here shows that the fish she brought was large and good.

"nāltēł," she cut, a lower form, for "naltũł."

"zesādletũk," for "sadletũk." The lower dialect only presents in a few cases a reduplication of the first syllable in past tenses. It may be compared to the Greek λϵ in *λϵλυκα,* but is quite exceptional.

"rorẽ'on," the first person plural, in its indefinite meaning, but here with the pronoun "ro" instead of "tse."

"rōza," the lower dialect form, for "royoza."

"ło," denotes mere interrogation.

"kŏkōkă kał," a front quarter, lit., a half of the ribs.

"royi tserẽran," we (he) brought in the hole; the underground house being often designated as "the hole."

"ko rŭd'oktse to-roslila," I did not get what could be carried, *i.e.*, I got what could not be carried, I got such a quantity that I could not carry it.

"tłŏrŭlŭ kōka," on the hard crust, and, by extension, the time of the hard crust *i.e.*, the latter part of spring, the last week of April and the first in May. At this time the snow thaws during the day, and, if the sky is clear, freezes at night, the top surface hardening into a crust on which one can walk without breaking through for six or eight hours of the morning. This hard crust is called in lower dialect "tłorulu," in upper dialect "tłérulu."

"to-rōletsŏre," what a large quantity. The lower dialect form of "to-rolekore";

the extreme lower dialect would have, as well as the extreme upper one: " to-roletchore."

" rōnīt," the lower dialect, for " rărănīt."

" tu ka rarḗdak," wishing (waiting) for water they spent the time, *i.e.*, they remained until the breaking of the river. The phrase belongs to the lower dialect; the same in the upper dialect would be expressed as " they went in a boat," even if they did not move from their place.

" me-lĕnyu," his brothers-in-law, viz., his wife's brothers.

" ro kōkĕn," a shoulder, lit. our shoulder. The pronoun of the first person plural seems to have been formerly " ro," which is still found occasionally, though commonly replaced by " tena." The cramp in his shoulder is a foreboding of the impending misfortune.

" tōt lāka," between the waves, lit., " (in) the throat of the waves."

" Rŏłtĕmĕts," Broadsled, the name is ridiculous, and always provokes the laugh of the audience.

" nolāya," the lower form for " nulara," salmon, the *Oncorhyncus nerka*, of naturalists, or Blueback salmon.

" to-nelāre," a snag. The river current undermining the soft banks causes them to cave in, and large pieces, bearing trees, slide down into the water. There the trees remain standing, until their roots are washed from the surrounding soil and the current turns them adrift. The word " to-nelare " applies to these trees, standing half-submerged in the water.

" Rōde na'a ye-no-rodōt'āne," etc. He reproaches her for her carelessness and laziness, by contrasting it with the painstaking watchfulness of his own mother. However, the objects mentioned generally provoke laughter among the hearers.

" nă'ă," lower dialect for " ina'a," mamma. A Ten'a never uses the words " se-to," my father, " son," my mother, but always " ita'a, ina'a " (in lower dialect also " ta'a, na'a "), papa, mamma.

" tītsĕză." Neither the narrator nor any other whom I consulted could give me the meaning of this word. It may be an old term, altogether lost in the actual language.

" ate rātāt," always perhaps. The phrase is used in lower dialect as an interrogative adverb, when a negative reply is expected, as in Latin *num, numquid.*

" eite zo," those indeed, *i.e.*, as for those.

" tła răde," without delay, lit., " without by-and-by."

" nōmăs," same as " tłabas " (in lower dialect " tłamas "), semi-circular knife.

" zōkŏł," at least, not even.

" taka no-kéih-lărăł," a birch log bobs up. The birch is heavy, and when drifting in the current, sinks and disappears at intervals, and then comes up again.

" ken'a ? " what is it ? viz., it is not much of a loss. This rejoicing or not grieving at his wife's death is most unnatural to a Ten'a, but it must be remembered that the hero of the tale is nothing but an owl. There is, even, a vague notion among the Ten'a that he was changed to an owl on account of his heartless conduct towards his wife. This is plain enough from the conclusion of the story.

" nedātor kărădĕlă," what is the burden of their songs. He hears them sing, and as this implies mourning, he naturally infers that they are mourning for his wife, their sister, whom they suppose to have perished in the storm, they themselves, as well as the hero, having presumably had a narrow escape. He wishes to know whether they give her much praise, and how they would feel if he disclosed to them his participation in the death of his wife.

" mĕn-lă-rălĕzăk," on it the hand slides smoothly. The parkie being the main part of the Ten'a attire, this is supposed to qualify the nice ones which she made for her husband and children.

" neka kō tān," an expression explained by the narrator as meaning: " long ago."

" tłéyŭk," a birch cradle. He disagrees with the quoted statement of his brother-in-law, and says that not often, but once only, did his wife give him a parkie, and this far from being smooth and supple, was as stiff as a birch-bark cradle. The birch-bark cradle used by other North American tribes seems to have been in use formerly among the Ten'a, but the custom has altogether disappeared, and now the tłéyŭk is only a hod.

" yurru nedodōnye ără dza-no-tenārḗłdar," she surprised us with all kinds of old things. This alludes to her sparing propensities, for which we have heard her husband reproaching her, and means that she hid and kept the food so that when she brought it out its existence had been forgotten, and all were surprised to see it. This the husband approves, and from it he conjectures that he may venture to tell them what has happened without incurring their indignation.

" ra-zesāltli." The reduplication of the first syllable in the verb has already been noticed in " zesadletŭ́k."

" se-lĕnyu," etc. He tries, in Ten'a fashion, to gain them over to his opinion.

" so-'ot ketsān tor serḗłta," my wife has laid me down in the grass, has caused me to lie down in the grass, viz., either because of the grief which I feel and for which I lament lying down in the grass; or, because of her carelessness which left me unprovided, as a vagrant without a home. The phrase is ambiguous, and he means it to be so.

" kezesāltli," with the reduplication of the first syllable of the verb, as above in " razesaltli " and " zesadletŭ́k."

" me-lĕn rărătăkă," his middle brother-in-law, viz., not the eldest, nor the youngest.

" kĕtłŏkŭ́n," a burning ember, in the lower dialect; but in the upper language the same word means a head of dried fish.

" kedzărka," the lower dialect word; in the upper dialect " zorka." The bird remains in Alaska during winter, and comes around the dwellings and camps to get the leavings of food which he can find; hence the whites named him: camp-robber.

"korōlerōn," they became or were made things ("ke"), *i.e.*, animals, irrational beings.

"orōdé," lower dialect for "aradé."

"roĭh rōn nekűts," a part of the winter is short. Such is the conclusion in the lower dialect stories: the root "kűts" being that of "eskűdza," to be small or short.

The story, as given above, was obtained from Peter Ruyolé, a native of Nełenorodal'oten, a village now abandoned, on the Yukon River, two miles below Nulato. He is considered as one of the best story-tellers among the lower tribes, and never fails to excite the laughter of his audience. He took great pains to give me the text as intelligibly as possible. After writing it down I read it to Ruyolé's wife, Margaret Unuk, and was assured by her that every word was correct. I had several occasions to read the story to natives afterwards, and always found that they understood it perfectly.

Yŏrtsĭh.

The Raven.

Nił-tsukalayu	ledo.	Tseyerotse	kōt	tłi	na-ad'oih,	ko
A-grandmother-and-grandson	stay.	And-so	now	out	he-goes,	the

me-koya.	Aruruyeł	rél'é	yunotsen	ronten	kaka	ra'oł.	Ruyeł
her-grandson.	And-then	perhaps	over-across	suddenly	a-bear	is-walking.	Then

rél'é	ido	no-ideyo.	Ruyeł	rél'é	te-deni:	"Tsukał,"	ni,	"tonotsen
perhaps	in	he-went-back.	Then	perhaps	he-says:	"Granny,"	he-said,	"here-across

kaka	ra'ol,"	ni.	Yiłdartsen,	roĭhtsĕn.	Tseyerotse	kōt	tłi
a-bear	is-walking,"	he-says.	The-ice-is-running,	in-the-fall.	And-so	now	out

niyo	ko	yĕnŏrűłlĕtĕn.	Ruyeł	rél'é	te-deni:	"So-kűn	terélał
she-went	the	old-hag.	Then	perhaps	she-says:	"My-husband	thou-may-be

to-roron,	no-tibaih!"	ni.	Tseyerotse	rél'é	no-talban.
in-order-that,	swim-across!"	she-says.	And-so	maybe	he-started-to-swim-across.

Toruno	rél'é	ido	no-ideyo,	ko	yenorułleten.	Tseyerotse	te	tlōtł
Meanwhile	maybe	in	she-went-again,	the	old-hag.	And-so	her	waist-front

dőnă	mĕlấzōn	leł	no-datłkōn.	Tseyerotsarałte	ni-ro	niban.
on	an-otter	skin	she-sewed.	And-so-then	to-land	he-swam.

Tā-ī̆dĕtĕn.	Tseyerotse	rél'é	yor	noko	diyo.
He-was-water-frozen.	And-so	I-guess	to-him	down-the-bank	she-went.

Tseyerotse	rél'é	yo	rőyŏ	tłé	ulenik,	tseyerotse	to-no-yidletan.
And-then	I guess	his	head's	hair	she-caught,	and-then	she-brought-him-up.

Tseyerotse	rél'é	ko	yar	rél'é	rałte	nedo	yetatłtan.	Eite
And-then	I-guess	the	house	may-be	and	into	she-began-to-bring-him.	There

rałte	łał-toyéka	mor	rukűdza.	Tseyerotse	rél'é	bĕkĕltłấlă
though	the-underground-entrance	for-him	was-too-small.	And-so	I-guess	an-axe

ā̆ră yurru ro-ronitłatł. Tseyerotse rél'é nedo yiniłtan. Orotse
with there she-chopped. And-thus I-guess inside she-brought-him. Thus

rél'é kĕtsā̆tłūn ye yar ni-niłkuł. Tseyerotse tłe roderélo
maybe a-straw-mat him under she-placed. And-so in-the-fire she-put-wood

nonła tłakat. Toruno rałte ko me-koya itenadlekĕt rél'é.
in-the-centre fire-place. Meanwhile though the her-grandson began-to-fear I-guess.

Tseyerotse te-deni: "Tsukala no-ketadlerē̆n," ni. "Tŭ,
And-so he-says: "Grandmother is-thawing-the-meat," he-says. "What,

ketłkōs toruno, tsĕlūłrā̆t!" yełni. Tseyerotse eite rél'é
he-is-stiff while, let-us-kill-him!" he-said-about-him. And-so then perhaps

te-yełni ko me-tsukala: "Tīdĕnā̆!" Tseyerotse kot te-yełni:
she-said-to-him the his-grandmother: "Nix!" And-so now she-says-to-him:

"Yakan kā, san-tor noro kō yoza ruronen
"That-person without, during-summer for-you arrows small one-who-shall-make

aden." Tseyerotse rél'é tłi na-ad'oih, tsarałte ko tŏrtsĕł yar tĕkē̆n
is-not." And-then out he-goes, and-then the cache under sticks

ra-ne-rā̆rădĕnĕzā̆ihĕ yet yar roni ne-nełrał. Tseyerotse rél'é
sharpened-to-a-point there under in-the-ground he-planted. And-thus

tortseł yi to-lyo, tseyerotse rél'é tsărănītō̆nă no-dinatłrał. Tse rél'é
the-cache in he-went-up, and-so the-ladder he-threw-down. And

ko taka to-ledo, yet. Ruyeł rél'é rotadleten, yuyéka rotsen. Ruyeł
now up he-stays-up, there. Then there-was-a-crash, below from. Then

ronten mo 'ō̆dlă kał ro-kederéłtortł. Ruyeł ronten ko ma-kał-kun
suddenly her hips one-of he-threw-out. Then suddenly the other (hip)-also

ro-kederéłtortl. Ruyeł ronten me nī̆ntłĕnă kūn ro-kederéłtortl, mo rō̆y'ŏ kun.
he-threw-out. Then suddenly her backbone also he-threw-out, her head also.

Ruyeł rél' kun mo kŏy'ū̆dză. Ruyeł rél'é tłi no-ideyo, ei ko kaka.
Then also her guts. Then out he-came-again, the this bear.

Ruyeł rél'é te-yełni ko kél yokala: "Nedatseyaka se tsukala
Then he-says-to-him this boy poor: "Howsoever my grandmother

te-inlor tso-rokă te-silar," yełni. Tseyerotse rél'é kot tso
you-treated likewise treat-me," he-said-to-him. And-so now the-cache

dō̆yī rutłyeł. Ruyeł lerén dlărā̆lĕ ā̆ră ye dzā̆tŏ yerodatłlih.
edge he-grasped. Then silver-salmon a-bundle-of with his chest upon-he-struck.

Ruyeł rél'é noyar no-na-radetak. Tseyerotsarałte kun no-yedatłlih.
Then down he-fell-again. And-so-then again he-struck-him.

Tseyerotse kot yerodinik ko baaba. Ruyeł ronten
And-so now he-has-exhausted this food. Then suddenly

tłen-yoza-kastł ara yītłtū̆s. Ruyeł rél'é noneka ronten
bone-small-spear with he-speared-him. Then to-the-woods suddenly

tiko talyo, rōŏt, ei ko kaka. Ruyeł rél'é
to-the-woods he-went, slowly, the this bear. Then

yuneko ronten royar diletlet. Te rél'é ma katlor
far-inland suddenly to-the-ground he-fell. Then his soles

yi-rűlěkőł yunőrtsen. Tseyerotse rél'é kot no-na-radeyo,
became-white behind. And-so now he-came-down-again,

ko kél yokala. Orotse rél'é te kō yoza rélzuk. Tseyerotse rél'é
this boy poor. Thus his arrows small he-took. And-so

taltsar: "Tsukala sa! Tsukala sa!" Tseyerotse rél'é tan'a
he-began-to-cry: "Granny I-want! Granny I-want!" And-so up-stream

taban ra'oł, atsar toruno. Ruyeł rél'é yur-nedar rotsen
on-the-beach he-walks, he-cries while. Then some-where from

kětsětlãł, ĩtłăk. Tseyerotse rél'é yurru ra'oł, atsar toruno:
we-are-chopping, it is heard. And-then there he-goes, he-cries while:

"Tsukala sa! Tsukala sa!" nitsen. Ruyeł rél'é toneko to'ot
"Granny I-want! Granny I-want!" saying. Then inland yonder

tārmãy-ten'a ketlał. Ruyeł ré'lé kot te-yełni: "Woy!"
a-mink-man is-chopping. Then now he-says-to-him: "Woy!"

yełni; "te tsukala katsen to-yilila-ru łon! yoko
he-says-to-him; "his-grandmother upon he-did-not-make-the-song when oh! for-her

tsar-a-dadeloih!" yełni. Tseyerotse kot to-lyo. Yerotse
he-acts-as-shedding-tears!" he-says-of-him. And-so now up-he-went. Thus

rél'é keré'on. Tseyerotse rél'é yu'ut łał-ka ro réyo,
he-ate. And-so over-there in-the-underground tunnel he-entered,

tseyerotsarałte rotadlenek yet yar: "Se tsu, ustan,
and-so-then he-began-to-tell (in)that house: "My granny, to-my-knowledge,

ketelatłran," nitsen. Tseyerotse rél'é ko rałte: "Hé!" rayełni.
a-beast-has-killed," saying. And-so now then: "Hey!" they-say-to-him.

Tseyerotse rél'é ko kastł rél'é ko yi-no-reitikon. Tseyerotse rél'é ko
And-so the spears edges they-sharpened. And-so that

yet kodonten yurru na-ratałledatł. Aruruyeł ko yet no-reidedatł.
then next-day to-the-place they-started-back. And-then the there they-came-back.

Ruyeł rél'é yuneko atłtan (ko kaka). Tseyerotse rél'é ko
Then far-inland he-is-lying (the bear). And-then the

tarmay-ten'a yoza yitłtus. Ruyeł rél'é: "Wai!" ni rél'é, "kel
mink-man small speared-it. Then: "Oh!" he-says, "the-boy

yoza-késa yelatłran, łon!" te-deni. Tseyerotse rél'é na-rayitł'ortł. Mo
small-dear has-killed-it, wonder!" he says. And-so they-flayed-it. Its

kor netchőr. Tseyerotse rél'é ko yortsih ro iletan. Tseyerotse rél'é
fat was-big. And-so the raven to it-was-given. And-so

kot na-ratałledatł. Ruyeł rél'é: "Ămā!" ni rél'é (ei ko
now they-started-back. Then "I-am-sick!" he says (the this

yortsih). Tseyerotse rél'é: "Rodorłkoih soro," ni. Tseyerotse rél'é
raven). And-so: "Build-a-fire for-me," he-says. And-so

rorodiłkon ra yoro. "Rode yaka so-'oka soko tu'os,"
they-built-a-fire they for-him. "Those over-there my-wives for-me let-them-come,"

ni, "rotł yeł," ni. Tse ko: "E'é," radeni. Toruno rél'é
he-says, "a-sled with," he-says. And now: "Yes," they-say. Meanwhile

na-ratałledatł. Yune'a niłnałru no-rodedeł toruno yoyi
they-started-to-go. Up-above far-away they-go-back while in-the-air

tlo-tsărālroĩhtl. Tseyerotse rél'é yerodi'on. Tsarałte te kotonten ra
we-jerk-the-buttocks. And-so he-ate-it-all. And then next-day they

yoko tal'ots rŏtł yeł. Tseyerotse kot naltan, korodi'on to-rotłoron.
for-him went a-sled with. And here he-lies, he-has-eaten-all after.

Tseyerotse rél'é kŏrőzĕnă ka yi-ruron, tsărāldā̃l yeł. Tseyerotse kot
And-so weasels' tracks he-made, ground-squirrels' also. And-so here

ra yor ni'ots, tseyerotse na-rayetadleror. Tłen yan yuur
they to-him came, and-so they-began-to-carry-him-on-sled. Bones only there

letlo, yerodi'ontsen. Tse ei ko tłen yan in'é
there-are, he-having-eaten-it-all. And the these bones only even-so

na-ratadleror. Tseyerotse rél'é na-ratałledatł. Tseyerotse rél'é ko
they-carried-on-the-sled. And-so they-started-back. And-so (to)the

yar na-rayileror, tsarałte no-réyo, tse ido no-ideyo.
house they-brought-him-on-the-sled, and he-went-down, and in he-went-back.

Ruyeł rél'é tlok yite no-idokon. Tseyerotse rél'é yerodi'on oden
Then dish in-(what-is) was-brought. And-so he-ate-it-all he

yan kun. Tseyerotse to-'oka ta-ałni: "Yaka tłen orłbats," ni.
alone again. And-so his-wives he-said-to: "Those bones boil," he-says.

Tseyerotse rayitłbats. Tseyerotse: "Yu'una nedo-no-nordokoih,"
And-so they-boiled-them. And-so: "(To)-those-over-there bring-this-in-a-dish,"

tłen yan in'é, "tōł kun." Ko yunekoten yŭ'ű̆n
bones only though-it-is, "the-broth also." The second-wife over-there

no-yetałlokon. Tseyerotse yu'u yar ido no-yidokon.
brought-it-in-a-dish. And-so that-there house into she-brought-it-in-a-dish.

Ruyeł rél'é yenił'an (ei tarmay-ten'a), ruyeł yulenik, tseyerotse
Then he-looked-at-it (the mink-man), then he-took-it, and-so

ye kontoko yara rulneł. Ruyeł rél'é: "Ălkā̆ se kontokot!"
her shoulders with-it he-drenched. Then: "Too-hot my shoulders!"

ni, tse taltsar. Yu'u rél'é ido nŏ-ideyo, tse atsar:
she-says, and began-to-cry. There in she-went-again, and she-cries:

"Alka se kontokot!" nitsen. Ruyeł rél'é totson a-no-ltlat,
"Too-hot my shoulders!" saying. Then a-raven he-became-again,

tādlĕkā̃ktsĕn. Ruyeł rél'é neñkoroten'a neñko-murulane a-no-rōlerŏn.
beginning-to-croak. Then the-people (into)animals were-changed-again.

Tse ko me kontokot tsorulnelen tas-kado-ledoye a-no-ltlat.
And the-one her shoulders have-been-drenched-who a-white-gull became-again.

Toruno ko kun tarmaya a-no-ltlat. Roih ron nekű̆ts.
Meanwhile the other a-mink became-again. Winter part-of is-short.

THE RAVEN.

A grandmother and her grandson lived together. The boy went out one day, and saw a bear walking on the other side of the river. He went back into the house and told his grandmother. "Granny," he said. "there is a bear walking on the other side." It was in the fall, the ice running.

Then the old hag went out, and she shouted: "Swim across and come to be my husband." And the bear began to swim towards her. Meanwhile, she went back into the house and sewed an otter skin on the front of her waist. The bear had come to the shore, but was numbed by the icy water. So she went down the bank to him and caught hold of the hair on his head and thus pulled him up the bank. Then she set to taking him into the house, but the underground tunnel was too narrow, and she had to enlarge it with the axe. Finally she had him in.

She put a straw-mat under him, and threw some sticks on the fire that was burning in the fire-place, at the centre of the house. Meanwhile, the boy was frightened. "Granny is going to thaw the beast," he said; and then he added, speaking to her: "Say, while it is still numb, let us kill it!" But his grandmother said to him: "Nix!" "Without him," she added, "how will you get your toy-arrows during summer? There will be no one to make them for you."

Then the boy went out and under the cache he planted in the ground small sticks of which he had sharpened the upper end; and getting up on the cache he pushed off the ladder, and remained there, waiting. He heard a loud crash from below, and a hip of the old woman was thrown out from the house. Then the other hip was thrown in like manner, and after it the backbone, and then the guts. After this the bear came out, and the poor boy said to him: "Now do to me as you have done to my grandmother." So the bear stood on his hind legs and grabbed at the edge of the cache. Then the boy seized a bundle of dried salmon and threw it at him, hitting him in the chest. He fell down on the ground. The boy cast another bundle at him, and that was all he had. So, with a small bone-spear he speared the bear, who then started for the woods, dragging himself slowly on. But there he fell down and lay on the ground. His hind feet became white on the soles.

Then the poor boy came down, and took his small bow and arrows; and he began to cry, singing: "I want my granny! I want my granny!" and he was walking along the beach, going up, and crying as he went. Then he heard the noise of some one chopping wood, and directed his steps towards the place whence it came. He was crying as he went on, saying: "I want my granny!" then he came to a place where a man-mink was chopping wood, who began to say: "A nice show of grief this boy makes, for one who has not made his grandmother's mourning song!"

But the boy went up, not heeding him, and the people gave him to eat. From one house he went into another, and began to relate what had happened. "My grandmother has been killed," he said. "Hey!" said they, and having heard his story, they began to sharpen their spears, and the next morning they set out for the place, carrying their spears. They found the bear lying on the ground in the woods and the little man-mink pierced it with his spear, upon which he exclaimed: "Oh! but the dear young fellow has really killed it!"

They then skinned the bear, and it was a very fat one. The whole body was given to the raven. The others were going back, but he began to complain: "I feel sick," said he. "Oh!" he added, "build a fire for me!" and they built the fire, and he stayed near it, and told the others: "Tell my two wives to come with a sled to fetch me back home," and so they went saying: "Yes, yes," and when they had gone a good way off, there was the Raven, every now and then jerking his rump upwards. So he devoured the whole carcass.

The next morning his wives started with a sled, and coming to the place, they found him lying on the ground, after he had eaten up the meat. On the snow around he had made numerous marks imitating weasel-tracks and ground-squirrel tracks. So they came to where he lay, and they put him on the sled to bring him home. There was nothing left of the bear, save the bones. These also they put on the sled and took along with them. Thus they brought him to the house, and he went down into it. A dish of meat was brought in, which he ate all to himself. Then he said to his wives: "Put the bones to boil," and they did. After they were boiled, he said again: "Take some of this in a dish" (there was nothing but bones), "to the people in the next house, and bring them some of the broth with it." The second wife filled a dish and took it into the neighbouring house. There the man-mink looked at it, and taking the dish from her hands he poured the contents on her back. Then she exclaimed, "Oh! my back is burnt!" and she began to cry. Back to her house she went, crying, and saying: "Oh! my back is burnt."

Then the woman's husband was changed again to a raven, and began to croak. The other people also were changed to animals. The man-mink returned to his mink form, and the one on whom he had poured the boiling broth was changed to a white gull.

A part of the winter has been made short.

NOTES.

"yŏrtsĭh," the raven. A lower dialect word; the other name, "totson," is common to both dialects.

"kōt," a lower dialect form of "ko, kon," the demonstrative which means here, now, this. The form "kot" is adverbial.

"rél'é." This adverb of uncertainty or indetermination occurs not less than sixty-five times in this story, which evidently shows that often it hardly conveys any distinct meaning. The conjunction "tseyerotse" occurs forty-seven times, besides appearing three times in the form "tseyerotsaraɫte," and the conjunction or adverb "ruyeɫ" appears twenty-seven times alone and twice in "aruruyeɫ." Many of the lower tribe speakers are profuse in the use of such words, and this narrative affords a good instance of their style.

" kāka," a four-footed animal of any kind. The term is elastic, and is sometimes applied to any warm-blooded animal. In the lower dialect only it is used occasionally, as here, to designate the brown or cinnamon bear.

" yenorūłleten " (pronounced " yenorułten "), an old decrepit woman. The plural form, derived from the multiple verb, " yenorułdakna," is rare.

" so-kū̆n terélał to-roron," in order to be my husband. This singular proposal and its consequences, which are believed to have happened, or, more exactly, which have been believed in former times, account for the repugnance of Ten'a women for the bear. No Ten'a woman can be induced to sleep on a bear-skin, or wear a piece of bear fur; and in the upper tribe especially, many avoid pronouncing the name of the bear.

" no-tibaih," the present inchoative used as imperative.

" te tlōtł dōna," her waist front. The expression is coarse, alluding to the hair on the pubis, which is designated as moss, " tlotł." This observation was made to me when I read my transcription of the story, and the more decent expression: " ta katsih taa," on the edge or border of her drawers, was suggested as an equivalent. I could not ascertain what was the woman's reason for thus using the otter-skin.

" tā̆-īdeten," lit., he was frozen in the water, simply means that he was stiff and numb with cold for having been in the icy water.

" ulnik," pronounced " ulenik," in the lower dialect.

" nedo," a form preferred by the lower speakers, of the " ido " or " yido," or " rado," meaning " into."

" łā̆ł tōyĕkă," has been described in the first story of the Raven, II.

" ketsā̆tlun," in the upper dialect " ketsan-ałletlune," lit., plaited straw: a straw mat. The natives make these out of grass from the swamps, and use them to lay their blankets on.

" tīdĕnă ! " nix ! an interjection equivalent to an ironical negation. It is accompanied by the gesture of filipping with the middle finger.

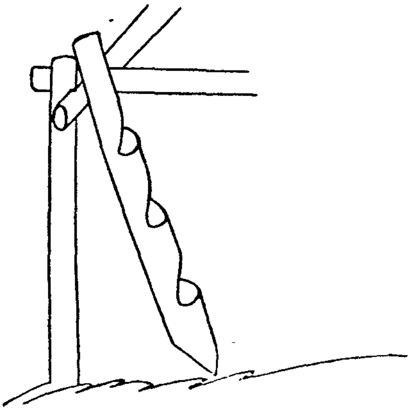
" yăkăn," the lower dialect, for " yakaten," that there person.

" kā," the preposition of wish or desire, mourning and regret. Here it denotes simply the absence or want of.

" āden," is the proper preposition to denote the absence or want of.

" tō̆rtsē̆ł," the platform cache, consisting of a simple platform of sticks, on four posts, without a roof or sides to it.

" tsărănītōna," the ladder to climb to the cache. It consists of a log, 8–12 inches in diameter, with three or four notches for steps.



"mo'odla kał," one-half of her hips, *i.e.*, one of them.

"ro-kederéłtŏrtł." The indefinite pronoun "ke" acts as subject: something, *i.e.*, an animal, viz. the bear threw out.

"nīntłĕna," lower dialect form, for "nentłena," backbone.

"mo kŏy'ŭdza," her guts. The word is coarse, and one would say more politely "me tsīka."

"lerén dlărāle," a bundle of silver-salmon, lit., silver-salmon bundled. The dried fish is often tied in bundles to facilitate storage and transportation. An average bundle weighs from fifty to sixty pounds.

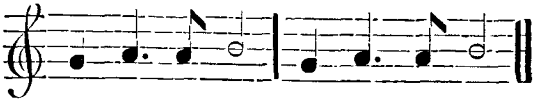
"no-na-radetak," lit., he fell down again, not that he had fallen before, but because by falling he returned to his former position. The first "no" means "down," the second (assimilated: "na") means "again."

"ko bāaba," this food, viz., the silver-salmon. There were only two bundles, and he has disposed of them.

"yitłtŭs," he speared him. The old time way of killing a bear was to spear it through the heart.

'te kō yoza," his small arrows. When the meaning is not limited by the context, "ko" implies the bow and arrows.

"tsūkāla sā," I want my granny. This is sung to the tune here given. It is as the mourning song of the boy for his grandmother. The preposition "sā," equivalent to "kā," is seldom used.



"tān'a," lower dialect for "tone'a."

"tābān," lower dialect form of "toban," "tobana."

"tsukala sa!" this is sung as before.

"tărmāya," mink; in the upper dialect "tarkudza."

"wōy," and, below, "wāi," are interjections which I never heard but in this instance, and I suspect they may have been borrowed from the whites. The sound of initial "w" is, as far as my experience goes, foreign to the language.

"łał ka," same meaning as "łał toyéka," but proper to the lower dialect.

"se tsū," my grandmother. "Tsu" is the real root meaning "grandmother," the addition "kala" being an adjective of endearment, which has become a part of the term; similarly "tsi" is the proper root noun meaning grandfather, but it is hardly ever used, except in the upper dialect, without the addition "kala."

"ŭstān," a lower pronunciation of "īstān," which is itself the lower form of "tasi," to my knowledge, for sure, assuredly.

"mo kŏr nĕtchŏr," its fat is abundant, it had an abundance of fat. The root "kor," big, becomes "tsor" in the moderate lower dialect, and "tchor," "tšhor," in the two extreme dialects.

"rŏ īletan," it was given to. The Ten'a hunt is conducted on communistic principles: in a band of hunters it is never the one who killed a piece of large game who gets it; he generally receives but an insignificant share, or none at all. By common agreement it is distributed among the party, or given whole to one who then is expected to cook it and serve it as a banquet to the whole village. Such was the case of the raven here, and with his usual low craft he immediately devises a plan to eat the whole of it by himself.

"ămā," in upper dialect "ăbā," expresses pain, sickness, of any description.

"é'é," yes. A lower dialect word implying approval.

"nīłnāłrū," far. The upper dialect uses "nīłlōtrū," viz., the root "lōt" instead of the root "nāł."

"yōyi tlo-tsărălrŏihtł," the 1st person plural indefinite for the 3rd singular: he jerks his behind up in the air. When the raven eats he stops at intervals to evacuate, and this action is accompanied by an upward motion of his tail. Mentioning simply this motion here implies the action which it accompanies, and the eating that precedes this.

"kŏrōzĕnă kā" . . . etc. He made these tracks on the snow so as to make believe that these animals had eaten the meat.

"alka," in the lower dialect, equivalent to "atłeba" in the upper one.

"a-no-ltlăt," for "a-no-łelat." The verb "a-eslar," I become, has two Reduplicatives: "a-no-estlar" and "a-no-eselar."

"tădlekāk," he began to croak. The verb "delekāk," to croak, from a root "kāk," which is an onomatopœia.

"tăs-kădŏ-lĕdōye," white gull. The lower dialect term; the upper one says "bats." Text obtained from Michael Kestak, a native of Madzatetseł'ihten, twenty-five miles below Kaltag.

Tsīłtsăă.

The Mouse.

Tsiłtsaa	na-rabał,	tsedeni.	Me	tlŏkĕnkă	niłkootset	tōkăyar
A-mouse	swims-across,	it-is-said.	His	rumps-upon	on-both-sides	houses

roderélo,	mo	kŏkĕnlōr	nilkootset	kūn.	Ni-ro	niban,	tseyerotse
there-are,	his	shoulders-upon	on-both-sides	also.	To-land	he-swam,	and-so

to-lyo,	tseyerotsarałte	ra-dzătŏr-rŭtłkoih.	Arurūyeł	yar
up-he-went,	and-so-then	he-struck-his-breast-on-the-ground.	Then	the-houses

rābă-rŏdīlĕdătł.	Tseyerotse	yar	yido	niyo.	Nił-neka
fell-in-a-line-on-the-ground.	And-then	a-house	into	he-went.	A-pair-of-wives

ro-datłtłé,	mizeni.	Tseyerotsarałte	yūtłĕnĕn	tse	ni-nāt'ōn :
he-keeps,	he-is-said.	And-so-then	the-first-wife	toward	he-turned-his-face :

"Ken ło eit mor ko-lo-nileya kantaye?" Tseyerotsarałte
"What is-it there to-which you-busy-your-hands it-seems?" And-so-then

nōlkĕ̄tlă yutłur rotsen dza nilton. Ye yi no-rotadleyar, aruruyeł
a-bag riverward from out she-took. It in she-searched, then

kĕt'ōn taak dza niłkuł, me dzā̋tō-yékă kūn kű̄n, kĕnő̄yĕkă
(a) moose-skin parkie out she-took, its under-breast fish-roe dried, fish-slices

kű̄n, kĕmḗdă kű̄n ā̋ră no-ruletsin kantaye. Tseyerotsarałte ne-zolekūł.
dried, belly-fins dried with ornamented it-seems-which. And-so-then we-put-it-on.

Tseyerotsarałte yunekoten kūn tse ni-tsenat'on: "Ken ło ei
And-so-then the-second-wife also toward we-turned-our-face: "What is-it the

yakat mor ko-lo-nileya kantaye?" yełni. Arurūyeł
there to-which you-busy-your-hands it-seems?" he-says-to-her. Then

yuneko yunura detadlenik. Aruruyeł ronten nolketla dza
landwards on-the-other-side she-put-her-hand. Then suddenly a-bag out

nilton. Ye yi no-rotadleyar ru ruyeł ket'on kātsĭ̄h dza nilo,
she-took. It in she-searched when then moose-skin pants out she-took,

kūn kű̄n yeł, kenoyeka kű̄n yeł, kemeda kű̄n yeł me
fish-roe dried and, fish-slices dried and, belly-fins dried and its

tsű̄ts-nĕn-tłĭ̄yĕkă nilkootsen no-on-rudletsin kantaye.
down-from-the-elbow-lines on-both-sides are-ornamented-with which-seems.

Tseyerotsarałte ye yi dōle'ātł. "Na'a kā ne-yetaras'oł,"
And-so-then it in he-stepped. "My-mother mourning-for I-shall-dance,"

ni. Rodo-kezeré'on, tsedeni; rałte ko tōn ka
he-says. We-made-a-song, it-is-said; and (this is) the-one his-mother for

yedatłtsine: "Se tsu ne-no-dā̋lĕstłĕ̄tłtsĕn, ne-no-sitłtantsen, rŏkā̋tŏr
which-he-made: "My granny she-carried-me-about, in-the-same-way

ka-radesrałtsen. Yekesroihtł! Yekesroihtł! Yekesroihtł!" Kesaltlih
I-carry-my-tail. I-jerk-it-up! I-jerk-it-up! I-jerk-it-up!" We-began-to-dance

me yeł. To-rotłoron rałte sadlekōk, tsedeni, neñkoroten'a lonna yeł.
it with. Thereafter also we-began-to-run, it-is-said, people many with.

Aruruyeł ronten na'a ra-to-tenatatłtan. Aruruyeł ronten
And-then suddenly behind they-began-to-leave-us. And-then suddenly

tena-ka ka royi to-dolenen. Tseyerotse talzḗł, mizeni:
a-human-foot track in he-fell-in-the-water. And-so he-shouted, he-is-said:

"Ko ro-no-sorłtaih!" tsedeni. "Tālĕk!" tena azeni; "nor ne tsū
"Here pull-me-out!" we-say. "Shut-up!" we-say-to-us; "for thy granny

kāt rōłĭ̄tsĕn no-kedīn'ōla." "Ko ralte ruzuntse ni-do-keditaras'oł,"
mourning-to well your-did-not-compose." "Now though well I-shall-compose,"

tsedeni, irû'. Tseyerotse yet taldo, mizeni. Tseyerotse nen
we-say, in-vain. And-so there he-remains, he-is-said. And-so the-ground

yéka talyo, mizeni. Tseyerotse ko taāk a-dīlő̄yĕ rodi'on, kenoyeka
under he-went, he-is-said. And-so the his-parkie what-is-on he-ate-all, fish-slices

yeł,	kemeda	yeł,	kĕdzőrlĕdőyĕ	kűn	yeł.	Aruruyeł	ronten	to-'oka
too,	belly-fins	too,	fish-hearts	dried	too.	And-then	unexpectedly	his-wives

notérna	tsőkĕnkăt	ruruł'anten,	eit	toyartsen	ro-réyo.	Tseyerotsarałte
two	a-cellar-cache	where-they have,	there	from-below	he-went-in.	And-so-then

kūn	tal'on.	A'on	ruyeł	ronten	mo-'oka	tsokenka
fish-roe	he-began-to-eat.	He-eats	while	suddenly	his-wives	the-cellar-cache

no-rutenadle'an.	Aruruyeł	ronten :	kun,	ło !	keto'on,	łon !
came-to-inspect.	And-then	suddenly :	the-fish-roe,	oh !	is-being-eaten,	strange !

Tseyerotse	rorodiłkon,	tseyerotsarałte	royi	roroderéłtsik.	Aruruyeł
And-so	they-made-a-fire,	and-so-then	in-the-hole	they-made-a-smudge.	And-then

ronten	me-do-sīs-da̋lĕnĕ̋n,	mizeni.	Tseyerotse	yet	rotłoron,	yet
unexpectedly	he-was-choked,	he-is-said.	And-so	there	after,	there

rurunatł'an	ru	ruyeł	tłűlĕtłűrĕ,	eite	ronten	yet	atłtan.
they-examined	when	then	a-yellow-mouse,	it	perchance	there	lies.

Tseyerotsarałte	rayulnik	tse	tłi	rayetatłrał,	ra	ye	tse	raréyo
And-so-then	they-took-it	and	out	they-threw-it-off,	they	it	against	had-spoken

to-rotłoron :	" Se	ke	dōlűlă	tĕ̋dlă ! "	Roih	ron	kűts.
after-that :	" My	own	muzzle	slender ! "	Winter	part-of	short.

The Mouse.

There was a mouse swimming across the river. He carried houses on his rump, houses also on his shoulders. He landed, went up the bank, and there he struck his breast on the ground. The houses fell off and set themselves all in a row. In one of them he entered.

He was a two-wife man. Turning toward his first wife, he said, " What is the work at which your hands are kept busy ? " Then from the riverward side of the house she took a bag, and fumbled in it, and produced a parkie made of moose-skin, the front of which was ornamented with dried fish eggs, dried slices of fish and dried ventral fins. He slipped it on; and turning to his second wife, he also, said to her, " What is the work that keeps your hands busy ? " And putting her hand to the woodward side of the house, she took a bag and searched in it. And she pulled out a pair of moose-skin trousers, on which a strip of the same ornaments was sewn on each side, from the elbow downwards; dried fish eggs, slices of dried fish, and dried ventral fins. And he put them on.

" Now," said he, " I will dance the mourning dance for my mother." And he made a song, a mourning song for his mother: " O my granny, who carried me about, as she carried her tail, so do I. I jerk it, I jerk it, I jerk it ! " And to the tune he danced.

When this was over they began to run a race, many together. And it happened that the others passed him and left him behind. And he came to a track of a human foot in the mud that had filled up with water. In this he fell, and immediately began to shout for help. " Save me from this," he exclaimed.

"Don't you dare to open your mouth!" they said, "you haven't done justice to your grandmother's mourning." "Oh, but I will," he said, "yes, I will." His protests were useless, they left him there.

And then he went under the ground, boring his way through. And as he had nothing to eat he fed on the ornaments that were sewn on his clothes, the dried fish slices, the dried ventral fins, the dried breasts of fish. He ate them all, and having exhausted this supply, he chanced to come, in his underground wanderings, to the cellar-cache of his two wives. There he began to feed on the fish-roe. But it happened then that they bethought themselves of taking a look at the underground cache.

They were surprised to find the fish-roe was being eaten, and they built a fire and made a smudge in the hole so that he was smothered and died. When they came back to see the place they found in it a yellow mouse, lying dead. They took it and threw it out; but before doing so they expressed their disgust by saying, "Oh, the slender nose!"

A part of the winter is shortened.

Notes.

"tsīłtsaa," lower dialect for "tiłtsaa," mouse. See VII. The term is a generic one, applied to the three species known to the natives. These are: 1. "tła-letłűre," in lower dialect "tłu-letlűre"; 2. "koih ke tiłtsaa," lower, "koih ke tsiłtsaa"; 3. "ludołtsihtla." The two first ones are much alike, somewhat larger than our common mouse, with a very short tail, seldom more than half-inch long; the "tła-letlűre" is of a yellowish grey, and the "koih-ke-tiłtsaa" of a dark grey colour. The "ludołtsihtla" is much smaller, with a long tail, about twice the length of its body. It will appear from the conclusion of the story that the hero of it is a "tłu-letlűre."

"me tlokenka," his rumps. The term is quite precise and denotes the fold or crease of the skin at the joining of the thigh with the body.

"mo kōkenlor," his shoulders. Here also the Ten'a term is more precise than ours; it designates the edge of the shoulder-blade.

"nił-neka," as "nił-roneka" at the beginning of IX.

"yutłĕnen," lower dialect, for "yutłīten: tłĕn" and "tłīt" are synonyms.

"ko-lo-nīleya," lit. you move your hands about.

"me tsūts nĕn tłīyéka," lit. its elbows (to the) ground in a straight line.

"ye yī dōle'ätł," he stepped into them. The Ten'a use the phrase "to put on" only for the upper garments, which are really donned by being put upon us; but for the nether garments which are put on by introducing the feet into them, the word used is "to step into."

"na'a," lower dialect for "ina'a," mamma.

"ne-no-dālĕstłĕtłtsen." I could not obtain a satisfactory explanation of this word.

"se tsū," he calls his mother his grandmother, by a figure of speech admitted in Ten'a.

"sādlekōk," we began to run (a race). It is by no means unusual to have races at a mourning feast.

"ra-to-tĕnātātltān." This must be a mistake for the passive: "ra-to-tenatadletan," we (he) began to be left behind.

"tenā ka ka royi to-dōlenen," he fell in the water in the track left by a human foot. This reminds the hearers that he is a mouse, and in their imagination he is already half-transformed, as it were, though he continues to speak:—they can almost see him in the act of transformation, and the very imagination is highly entertaining to them.

"nĕn yĕkă tālyo," he went underground. Now the transformation is complete.

"kĕdzŏrlĕdōye," fish-heart; a part of the breast considered as a choice morsel.

"tsōkĕnkāt," a cellar-cache, an underground cache. These are small cavities, about 4 feet in length and breadth, and 2½ feet in height, generally dug out on a slope, wherein the fish-roe is stored in birch-baskets. It undergoes a partial decomposition which does not render it unfit to be used, especially as dog-feed. In the upper dialect "tsōkĕnkāt" is replaced by "tsōken'ōn."

"kun ło keto'on, łon"; to their surprise some animal is eating the fish eggs. The indefinite pronoun "ke" as subject, representing some animal, unknown, or rather, undetermined. They are not aware that their husband is the thief.

"royi roroderḗłtsīk," they made a smudge in the hole, with the expected result, viz., to smother the vermin with the smoke.

"tłŭlĕtłŭre." See the first note of this story.

"se ke dolūla tĕdla," my own slender muzzle. The phrase is not said by them as personating the mouse who would thus speak of his own nose, for if it were so the possessive article "ke" could not be used. They call him "slender muzzle," and one of them, or each separately, addressing him, says in mock endearment: "Oh, my own dear slender muzzle!"

The text given above was supplied by Peter Ruyolé of Nełenorodal'oten.

Kél yŏkā̆lă.

The-young-man-poor.

Ko	rél'	tsorotan.	Eit	rél'	tōyō̆n	ledo,	eit	mo	ō̆tŏr
Here	perhaps	we-dwell.	There	perhaps	a-rich-man	lives,	there	him	near

rałte	mōrō	ko-idenihen	mo	ō̆tĕ	ledo.	Tsarałte	mo-'ot	rulan,	ko	kél
also	for-him	one-who-works	him	near	lives.	And	his-wife	there-is,	this	youth

yokala,	mo-'ot	nezun.	Tsarałte	toyon	yet	ledo.	Tsarałte	te-yełni:
poor,	his-wife	is-good.	And	the-rich-man	there	lives.	And	he-says-to-him:

"Nor	no-'ot	se	tlo nełtaih,"	yełni,	iru.	"Nedan,"	yełni
"Yonder	your-wife	me	give-to,"	he-says-to-him,	in-vain.	"No,"	says-to-him

ko kél yokala; "Nedan," yełni. Tseyerotse to-'ot rŏ-nĕtsĕ̃n tso-royan.
this lad poor; "No," he-says-to-him. And-thus his-wife he-keeps always.

Tseyerotse te-yełni: "Nedan ło yakat tłā yīt, dza
And-so he-says-to-him: "Where is that-place rock in, out

no-to-kărăltā̃r razeniten, eit rotse ti'oih a?" yełni,
devils-jump-in-the-water where-it-is-said, thither go will-you?" he-says-to-him,

ko kél yokala ałni. "ũntĕ, nor mĕ-tĕ̃n'ă-ĩtlŏrtlă gĕtā̃
this lad poor he-says-to. "Yes,-on-condition-that yonder sword big

sor ni niłtih a?" yełni. "O'o," yełni ko toyon; "O'o,"
to-me you-will-lend?" he-says-to-him. "Yes," to-him-says the boss; "Yes,"

ni. Tseyerotse yet rotse talyo; tseyerotset ayu ra'oł,
says-he. And-so thither he-went; and-so thereabout he-goes,

ra'ol. Aruruyeł ronten tłā, dłeł geta: yuur ra'oł. Aruruyeł
goes. Then suddenly a-rock, a-mountain big: there he-goes. Then

sā̃rnŏ rŏdlō̃t dza niyo. Aruruyeł tła geta, niłkootsen
(to) a-creek's headwaters out he-came. Then rocks huge, on-both-sides

totłena tła a-dĕnō̃dăkā̃ih ru talyo. Aruruyeł yutoko
to-the-main-water rocks standing-high where he-is-going. Then above

rŏntō̃nă, yur yutoko ronten bīlō̃rkă kantaye eite ronten taka
it-projects, there above suddenly ropes things-like these suddenly upwards

ne-no-nodetsułtł. Tseyero toruno ra'oł, ra'oł, ra'oł. Kota keteti
twirl-and-twist. And-so meanwhile he-goes, goes, goes. Now extremely

yutoko rontona bilorka kantaye ketite taka ne-no-inałletsuł.
up-above projecting ropes things-like extremely upward twirl-and-twist.

Toruno ra'oł, sarno totłena ra'oł. Tseyerotse kota
Meanwhile he-goes, (on) the-creek to-the-water he-goes. And-so now

ni-niyo, tse yutaka ronił'an. Aruruyeł kon, ronten ŭłō̃k
he-has-stopped, and above he-looks. And-then here, strange kettle

kantaye eite yitse toyartsen tu kantaye nelekũr, tseyerotse
a-thing-like this from-within from-beneath water a-thing-like is-boiling, and-so

taka no-kĕdzē̃stł-rolał. Aruruyeł tena yatłena kăntā̃yĕ me tortsena
up the-large-bubbles-come. And-then our jaw a-thing-like him above

dĩdŏkŏih, łōn! Tseyerotse toyékatsen kun keinalton. Aruruyeł kun
is-hanging, oh! And-so underneath also he-turns-his-eyes. And-then again

tena yatłena kantaye me yartsena didokoih, łon! Nĕkĕdzăltā̃ră lā
our jaw a-thing-like him beneath is-stretched, oh! (In) A-devil's mouth

réyo, kadeyor, łon! royeł-tse-tenīga torūno. ā̃tlĕyĕ-łō̃n eite
he-has-come, as-it-were, oh! he-is-not-aware while. And-for-sure in-this (devil's)

yā̃rtŏyīt: kūn tu nelekũr kātān, ko nekedzaltara yartoyit: ye
throat: also water boils as-it-were, (in) this devil's throat: (in) its

lā̃kăt réyo, łon! Tseyerotse ko bilorka kantaye ma-urinałletsũł. Eit
neck he-has-come, oh! And-so the ropes things-like around-him-twist. There

ko rotortsena yutoko ma-yurinałletsűle, eite ko nekedzaltara
the downward (from) above things-around-him-twisted, these the devil's

yắtłĕnă eite tsen ko yutoko rontona nărălnĩhă kantaye taka
jaw it from here above projecting rawhide things-like upward

ne-no-nodetsułtł. Tseyerotse ko yutoko ko rotőrtsena ma-yurinałletsűle
are-twisting. And-so the above the downwards around-him-twisted

naltlortł, ko me-tena-itlortla ara. Tseyerotsen yet tă'ắnă ror
he-severed, the sword by-means-of. And-thus there away-from through

iletlűr. Tseyerotsen ko tena yatłena kantaye eite mo rű rulan:
he-skipped. And-so the our jaw thing-like this its teeth there-are:

eite kéłoke ūlnīk. Tseyerotsen no-tałleyo. Tseyerotsen te yar
(of) these one he-took. And-so he-went-back. And-so (to) his house

no-ideyo. Tseyerotsen ko nekedzaltara rű te-ke tŏyőnă tlo-ré'on.
he-came-back. And-so the devil's tooth his boss he-gave-to.

Tseyerotsen ko me-tena-itlortla toyon tlo-no-réton. Tseyerotse ko soltan
And-so the sword the-boss he-gave-back-to. And-so the woman

to-kűn kắtlō ledo. Tseyerotse mo-kűn no-ideyo. Tseyerotse
her-husband in-place-of stays. And-so her-husband has-come-back. And-so

tłete rotaltlet, tseyerotset rałtsen to-kűn nŏrőł rōlenek:
the-night has-begun, and-then in-the-evening her-husband to she-told:

"Nor, tasi, nor toyon, yu'utsen sor ido-niyo: 'So-'ot
"Yonder, you-know, yonder rich-man, from-there to-me came-in: 'My-wife

inlan,' sederéni, iru," yełni. Tseyerotse to-kűn norol rōlenek;
be,' he-said-to-me, in-vain," she-says-to-him. And-so her-husband to she-told;

inte mo-kűn dza-do-dile'ila. Tse yet rotłoron kota te yar ledo,
but her-husband answered-not. And there after then (in) his house he-stays,

ko kéla, ledo, ledo. Aruruyeł yu'utse toyon mor ro na-radeyo,
the youth, stays, stays. And-then from-over-there the-boss to-him came-in-again,

tseyero te-yełni: "Nedanyakat teleł-ten'a tőyăr rutł'on tsedeni
and-so he-says-to-him Where the-eagle-man (his) nest has it-is-said

tān, eit-rotse ti oih a?" yełni. "O'o," yełni;
as-we-know, thither go will-you?" he-says-to-him. "Yes," he-says-to-him;

"ro'é tĕltűdlă sor ni-nitih," yełni. "O'o," yełni ei toyon;
"that gun to-me lend," he-says-to-him. "Yes," says-to-him the rich-man;

"O'o," ni. Tseyerotse yu'ut te yar ko toyon te ke teltűdla
"Yes," he-says. And-so there (to) his house the boss his own gun

oko no-łleyo, tse yor ni-yeniton. Kĕdőtlă leł ko-iłkuł, yetắne;
for went, and to-him he-lent-it. (A)-bullet-sack he-carries, which-he-has;
[(A)-cartridge-belt]

te tsĕ̄dă ko-iraih; tseyerotse ra'oł. Yuur ra'oł; ko teltűdla ratił,
his blanket he-packs; and-so he-goes. There he-goes; the gun he-packs,

ratił; tseyerotse ayu ra'oł. Aruruyeł ronten dłeł geta ro niyo,
packs; and-so there he-goes. And-then suddenly mountain big to he-came,

tse no-do'oł, no-do'oł. Aruruyeł ronten yutoko me tlī̆dŏ
and he-goes-around, goes-around. And-then suddenly above him overhead-of

ronten, yā̆tsĕnă rō̆bĕtă ronten, tsĕbā̆ kŏr notérke roni-deré'o, tseyerotset
suddenly, on-that-side a-flat suddenly, spruce large two are-standing, and-thus

yutoko ronten tē̆lĕlă me tĕlō̆yīt tōkā̆yăr rutł'on, tse yutoko yor
above suddenly an-eagle it on-top-of (its)-nest has, and up to-them

ro-lyo, tseyerotset ye kĕn rŏn ni-niyo, tseyerotset ye tĕlō̆rŏ
he-climbed, and-so their foot at he-came, and-so (to) their top

diyo, tseyerotset ko tē̆lĕl tū̆r to-lo'one eite yartsena, telel tū̆r
he-climbed, and the eagle's nest which-is-up this beneath (the) eagle's nest

otor yedenaltlih ko teltū̆dla, tseyerotse yet to-ledo. Keten'a
along-side-of he-thrust-it the gun, and-so there he-stays-up. Young-ones

notérke ma kado dadletłé. Tseyerotse ko-yur-to-lyote ko tĕłē̆n kē̆lă
two it upon are-staying. And-so when-he-came-up-there the elder-one male
(from-the-place-where-he-came)

ta-ałni : " Ro nōn yel, ro ne-tō, yel, rō̆dē ? "
he-says-to : " Where your-mother too, where your-father, too, where ? "

yełni. Tseyerotse : " ī̆tăă an-ko-ranātor ranoy oko ; ī̆tăă
he-says-to-him. And-so : " My-father they-are-hunting deer for ; my-father

ī̆năă yeł an-ko-ranator," yełni. " Non no-notortł tor,
my-mother too they-are-hunting," he-says-to-him. " Your-mother comes-back when,

nedatse to-rŏtan ? " yełni. Tseyerotse : " O'o, inaa no-rodenihtł
how does-it-do ? " he-says-to-him. And-so : " Yes, my-mother comes-back

tor, orota anteit yoł kĕntłū̆kă a-ałyō̆ł," ni ko kéla, rŏlenĕ̄k.
when, then indeed snow wet it-snows," says the young-male, he-tells.

Tse : " O'o," yełni ; " tse ne-to no-rodenihtł tor, orote
And : " Yes," he-says-to-him ; " and your-father comes-back when, then

nedatse to-rotan ? " " Kénlu a-ałyoł, ka-to-rotan," yełni. " O'o,"
how does-it-do ? " " Hailstones it-snows, as-it-were," he-says-to-him. " Yes,"

yełni. Kota ye noroł rōlenek, ko kéla. Tseyerotse kon
he-says-to-him. Now him to he-has-told, the young-male. And-so here

ta-raledo ko telel yoza, toruno ko kél yokala : " Nedakun sor
they-stay the eagles small, meanwhile the lad poor : " Do-not about-me

rurlenekayu ! Ne-tē̆łnăkă noroł sor rorlenek ta, yor ī̆tĕlărătłrał,"
do-not-tell ! Your-parents to about-me you-tell if, you I-will-kill,"

rołni. Aruruyeł ronten yoł kentluka a-rélyotł, rukū̆dzatsen,
he-says-to-him. And-then suddenly snow wet it-snowed, just-a-little,

tseyerotset kon ledo. Aruruyeł raban no-natok, tseyerotset
and-then here he-stays. And-then their-mother flew-back, and-then

yatsena ma kalekū̆na tor ronten ! ranoy me-ten'a, kōn kūn
on-one-side her claws among oh ! deer's young-ones, here too

ranoy me-ten'a, kon kun ranoy me-ten'a, kon kun ranoy me-ten'a
a-deer's young, here too a-deer's young, here too a-deer's young

kon kun ranoy me-ten'a; tseyerotse yatsen rałte neñkoroten'a, tse
here too a-deer's young; and-then on-the-other-side people, and

kon kun ten'a, tse kon kun ten'a, tse kon kun ten'a, tse kon
here too a-man, and here too a-man, and here too a-man, and here

kun ten'a. Tseyerotse te tűr bãră to-no-yidleyo, ye yeł
too a-man. And-so her nest on-the-edge-of she-put-them-up, them with

to-no-naltok. Tseyerotse ko neñkoroten'a eina kōn dza
she-has-come-back. And-so those people (of) them the-bowels out

runilo, tseyerotse ko te-ten'aka tor yiltlo. Kon to-ledo.
she-took, and these her-young-ones to she-gave-them. Here she-stays.

Aruruyeł ronten ye-yeł-ketłtűł ko kéł yokala, tse noyéka no-yeréłtlak,
Then suddenly he-shot-her the lad poor, and down he-threw-her,

tseyerotse ko kon neñkoroten'ayu ranoya yeł to-keletloye, eite
and-then these here people deer also that-are-up-here, these

tĕtłĕkă noyéka no-réłdihtł, tseyerotse kłé kon ledo. "Neł-e-kă'ãnă
all down he-pitched, and-so still here he-stays. "Both-of-you

yor-to noroł sor rurlenekayu," rołni. Tseyerotse kłé
your-father to about-me do-not-tell," he-says-to-him. And-so still

kon to-ledo. Aruruyeł ronten kénlu a-rélyotł: yu'u ronten
here he-stays. And-then suddenly hailstones it-snowed: over-there suddenly

telela no-notortł, tseyerotse ko te tűr bara kon to-no-nałledo.
an-eagle is-flying-back, and-so this his nest's edge here he-alighted-again.

Tseyerotset ko te-ten'aka, ta-ałni: "Rō yor-ōn, rõdé?"
And-so these his-young-ones, he-says-to: "Where your-mother, where?"

rołni; "rō-tān se kootsen no-netorten, kłé, łōn!
he-says-to-them; "as-I-know me ahead-of she-flies-back, not-yet, strange!

no-rałleniha?" te-ten'aka ta-ałni. Tseyerotse: "Nedén; inaa
she-is-not-back?" his-young-ones he-says-to. And-so: "Oh! no; my-mother

kłé kãlă; rõdĕtsĕn?" rayełni. "Kłé łon! no-rałleniha'an!
still is-not-here; where-indeed?" they-say-to-him. "Not-yet oh! not-come-back!

to-dorni?" rołni. "Nedén, kłé inaa kala," radeni.
what-say-you?" he-says-to-them. "Oh! no, still my-mother not-here," they-say.

Tseyerotse kot ma kãlĕkúnă lõră ranoy me-ten'aka ranāleta;
And-so now his claws about deer's young-ones one-to-each;

yatsen rałte neñkoroten'a ma kalekũna lora rote-ranaleta.
on-the-other-side people his claws in one-apiece.

Ko eite noyéka no-réłdihtł. Tse tűr bara detadlezōk, ko
The these down he-pitched. And (on the) nest's edge he-began-to-scream, this

telela. Tseyerotse tűr bara tuura no-kãlĕdzũihtł-rŏdĕtādlĕzãr.
eagle. And-so (on the) nest's edge there he-claws (opens-and-shuts-his-claws).

Tseyerotse ye-yeł-ketłtűł, ko kon ten'a ledõnen. Tseyerot
And-so he-shot-him, the here man who-is. And-thus

na-raletlĕt.	Tseyerotset	ko	kon	keten'aka	telel	yoza	kon
he-fell-down.	And-so	the	here	young-ones	eagles	small	here

to-dadletłéyé	irō̆la.	Torun	kota	no-na-radeyo.	Tseyerotse
that-are-up	he-killed-not.	Meanwhile	then	he-went-down-again.	And-so

ya	ka	ra-an-denatłtotł,	eite	kŏtā̆	no-detadleyo.	Tseyerotse
their	feet	he-cut-off,	these	now	he-took-with-him.	And-so

te	kō̆nón,	te	yar	no-ideyo.	Tseyerotse	ko	toyon
(to) his	house,	his	place	he-went-back.	And-so	the	rich-man

tlo-no-yeréton,	ko	teltū̆dla,	tseyero	ko	teleł	ka	yeł	toyon
he-gave-it-back-to,	the	gun,	and-so	the	eagle's	feet	also	the-boss

tlo-kederélo.	Tse	yuur	ledo,	ledo,	ledo,	ko	kéł	yokala.
he-gave-to.	And	there	he-stays,	stays,	stays,	the	youth	poor.

Aruruyeł	yu'utsen	mor	ro-notsod'ots	(ko	toyon
And-then	from-over-there	to-him	we-came-in-again	(the	rich-man

antei	te-tanen).	Tseyerotse	te-mizeni :	" Nĕdā̆dĕnyăkā̆t	kayar
it-is	who-does-so).	And-so	we-say-to-him :	" Where	a-village

rul'on	tsedeniten,	eit rotse	ti'oih	a ? "	mizeni.	Tseyerotse :
is	it-is-said,	thither	go	will-you ? "	we-say-to-him.	And-so :

" O'o,"	ni.	Tseyerotsen	nūlā̆r	tsĕdzā̆	yeł	lā̆rā̆n	yeł	ketalran.
" Yes,"	he-says.	And-so	salmon	dried	also	silver-salmon	also	he-packs.

Tseyerotse	yu'u	ra'oł,	ra'ōl,	ra'oł,	ra'ol,	ra'ol,	ō̆dā̆,	kōrā̆ł,	korał,
And-so	there	he-goes,	goes,	goes,	goes,	goes,	all-along,	he-packs,	packs,

korał.	Kota,	oda,	oda,	korał,	korał.	Kota	no-rotädlerīk	dzan
packs.	Then,	all-along,	all-along,	he-packs,	packs.	Now	it-has-begun-to-thaw	days

tor ;	ra-no-ketalt'ok.	Sō	ā̆rā̆	dzan	tor	ronelekū̆r,	tseyero
during ;	the-sun-shines-again.	The-sun	by	days	during	it-is-warm,	and-so

nūdā̆r	no-tadlerik.	Ra'ol ;	kota	ranatłtsūts.	Kota,	nular
the-snow	is-thawing.	He-goes ;	now	he-is-skin-and-bones.	Now,	(the) salmon

tsedza	yeł	larana	yeł	korodi'on.	Tsarałte	ate-dzan-tor	ā̆łă'ō̆nă
dried	also	(the) silxer-salmon	also	he-has-eaten-up.	And	every-day	grouse

eite	a-alaih,	a-alaih ;	eite	kat.	Tłeta	alek,	tłeta	alek,
these	he-kills,	he-kills ;	these	he-wants.	Night	he-spends,	night	he-spends,

tłeta	alek,	tłeta	alek,	tłeta	alek.	Kota,	ra'oł,	oda.
night	he-spends,	night	he-spends,	night	he-spends.	Then,	he-goes,	all-the-time.

Aruruyeł	tōkū̆rbā̆ră	ra-diyo.	Aruruyeł	yunłet	ronten	kayar	rulan :
And-then	the-sea-coast	he-reached.	And-then	hillward	suddenly	a-village	there-is :

yet	rotse	ra'ol,	ra'ol,	ra'ol,	ra'ol,	ra'ol,	oda	ra'ol ;	tseyerotse	yet
there	to	he-goes,	goes,	goes,	goes,	goes,	all-along	he-goes ;	and-then	there

ido-niyo.	Aruruyeł	yet	tena	kala,	tena	kala.	Tse	ayu	yar
he-went-in.	And-then	there	people	is-not,	people	is-not.	And	there	in-the-house

ko-id'oih.	Aruruyeł	yuneko-yutokot	ronten	mā̆sĕmā̆kĕ	to-letlo,	dī̆nkā
he-walks.	And-then	inland-up	unexpectedly	boots	there-are,	silver

ra-dīlōtĕn. Tseyerotse, tā-to-ruta-rū, yasek daletloye nitsen,
in-a-place-lined-with. And-so, in-a-place-like-this, a-box lying (there) behind,

royi radetlak. Tseyerotse kota, to-totlor, kanta. Keł'ona tokodékun
in-the-hole he-crept. And-so now, he-shall-die, he-is-like. He-eats-not because

ranatłkū̆n, me nĕlā̆n kala: keł'ona. Tseyerotse letan: tseyerotse
he-is-very-thin, his flesh there-is-not: he-eats-not. And-so he-lies: and-so

yuur letan. Aruruyeł yu'utse ronten ido-no-tsōdedē̆ł: ten'a lon.
there he-lies. And-then from-yonder suddenly we-come-back-in: people many.

Tseyerotse yu'utse korokootsen ido-na-rad'olen eiten ronten te-deni:
And-so from-there ahead (of-them) the-one-coming-back-in this-one suddenly says:

"Masemake, ke-no-réłnihtł," ni. Aruruyeł ko kon masemake to-letloye
"Boots, cook-something," he says. And-then the here boots that-are-up

no-rédatł. Aruruyeł yunła belida lo'ne ni-nidatł, ko masemake.
jump-down. And-then hillward a-stove that-is they-came-to these boots.

Tseyerotset ayu ko-idedał, oden zīt, ten'a kā̆lă. Tseyerotse
And-so there they-walk, themselves alone, a-man there-is-not. And-so

yunłet ronten belida yi no-rŏdī̆dŏkōn tseyerotse kĕtł a-no-tātłnīk,
hillward suddenly the-stove in they-made-a-fire and-so food they-are-cooking,

ko masemake. Tseyerotse ketł a-na-atłnik, kē̆łŭră ketł a-na-atłnik.
the boots. And-so food they-have-cooked, quick food they-have-cooked.

Tseyerotse stōl kā̆tsĕn tlok to-no-letlo. Tseyerotse kéłur yen-keréi'on,
And-so (the) table upon plates they-put. And-so quick they-ate,

ko no-idedatłna. Tseyerotse na'an kūnūn tłi na-ratałledatł, tseyerotse
those who-have-come-back. And-so off again out they-went, and-so

rabe kala. Tseyerotse dza no-idetlak ko niyonen, tseyerotse tłi
them there-is-not. And-so out he-crept-again the one-who-came, and-so out

niyo. Tseyerotse niłkaatse ronił'an. Aruruyeł yur niłkaatsen ronten
he-went. And-so on-both-sides he-looks. And-then there on-both-sides suddenly

lō̆sĕt rabe-ko-ral-iledał. Tseyerotse ido na-rad'oł ko niyonen.
horses carry-them-on-their-backs. And-so in he-comes-again, the one-who-came.

Aruruyeł ko masemake kon to-letloye, eite ta-ałni: "Masemake,
And-then the boots here that-are-up, them he-says-to: "Boots,

ke-no-réłnihtł." Tseyerotse ko masemake no-rédatł, tseyerote ketł a-na-atłnik,
cook-something." And-so the boots jumped-down, and-so food they-cooked,

tseyerotse ko niyonen akeréł'on. Tseyerotse tlok a-no-to-ltlo. Tseyerotse
and-so the newcomer they-fed. And-so the-dishes they-washed. And-so

kota, kon to-no-łledatł. Tseyerotse kon diñka ra-diloten royan
then, here they-went-up-again. And-so here silver a-place-lined-with only

to-letlo. Tseyerotset ko yunura yāsē̆k réta ru, aru royi na-radetlak.
they-stay. And-so the opposite box where-he-lay, there in-the-hole he-crept-back.

Tseyerotset kota no-réidedatł. Tseyerotse yi-no-kereid'on, ko masemake
And-so then they-came-back. And-so they-ate-again, the boots

raboro ketł a-na-rałnihtł. Tseyerotsen tłete rorélet: rănāldzĕt.
for-them food they-cook. And-so the-night passed: they-lay-down.

Tseyero kota dza-ranidak, tseyerotse yaka tłā̆rū dza-nileten
And-so then they-woke-up, and-so that (one who) first woke-up

te-deni: "Masemake, ke-no-réłnihtł," ni. Tseyerotse ko masemake ko
says: "Boots, cook-something," he-says. And-so the boots here

to-letloye ko no-rédatł. Tseyerotsen yi-no-kereid'on, dza-ranidak tseyerotsen.
that-are here came-down. And-so they-ate-again, they-woke-up just-after.

Tseyero tłi no-reidedatł, tan. Tseyerotsen dza no-ideyo ko kon.
And-so out they-went-again, as-before. And-so out he-came the here.

Tseyerotse ōdē̆ kor te-yełni: "Masemake, ke-no-réłnihtł," yełni.
And-so he also says-to-them: "Boots, cook-something," he-says-them.

Tseyerotse moro ketł a-no-yitłnik, tseyerotse no-kōd'on, ko ten'a.
And-so for-him food they-cooked, and-so he-ate-again, this man.

Tseyero yuur yar ledo. Aruruyeł ronten no-tsidedatł, itłak,
And-so there in-the-house he-stays. And-then suddenly we-came-back, it-is-heard,

yur tłī̆tĕyĭ rotsen. Aruruyeł no'otse ronten ido-no-tsodedeł, torun
there outside from. And-then from-there suddenly we-are-coming-in-again, while

yar ledo. Aruruyeł yaka korokootsen ido-na-rad'olen,
in-the-house he-stays. And-then that (one) ahead who-comes-back-in,

eiten te-deni: "Masemake, ke-no-réłnihtł," ni. Tseyerotse ko
he says: "Boots, cook-something," he-says. And-so the

masemake to-letloye no-rédatł, tseyero ketł a-na-atłnik, tseyero
boots that-are-up came-down, and-so food they-cooked, and-so

yi-no-kereid'on. Ro yeł keré'on ko niyonen. Tseyerotsen tłi niyo.
they-ate-again. Them with he-ate the newcomer. And-then out he-went.

Tuur rŏzō̆n loset dadletłé. Tseyerotsen ido-na-rad'oł torun te-deni:
There though horses are-standing. And-so in-he-comes-back while he-says:

"Masemake, kłē̆rō tasi ne tse kĕtsō̆t-ĕgĕ'ī̆lă; ne tse
"Boots, in-real-truth you towards (coming) I-had-a-hard-time; you to (coming)

tasi kléro ketsot-ege'ila," yełni. "Kĕn rŏn?" yełni.
indeed truly I-had-a-hard-time," he-says-to-him. "What for?" he-says-to-him.

"Toyon mor lesdonen: 'Yuur ti'oih,' sełni, ta-rar'ana ne
"A-rich-man with-whom I-live: 'Thither go,' he-says-to-me, wherefore you

tse tales'o," yełni. Tseyerotsen ko kon masemake to-letloye no-rédatł.
to I-came," he-says-to-him. And-so the here boots that-are-up came-down.

Aruruyeł: "Oné," yełni (ei masemake te-yełnitsen). Tseyerotse yur
And-then: "Come," he-says-to-him (the boots saying-to-him). And-so some

korora'an yar ye kootsen ido-niyo. Tseyerotset yutaka ye kootse to-ledatł.
apart house him ahead-of he-entered. And-so upstairs him ahead-of he-went-up.

Tseyerotse kon ledo ko niyonen. Aruruyeł yutoko rotse ko-idedał,
And-so here he-stays the newcomer. And-then above from he-walks,

itłak, ko masemake. Aruruyeł kon ma kala. Mălŏrō̆t me yi
it-is-heard, the boots. And-then here him no-more. A-steamer it in

rodalkone kon no-rérał. Tseyerotse ye yi réyo. Tseyerotse ko ten'a
there-is-fire here has-come-down. And-so it in he-went. And-so the men

tetłekna ye yi rédatł, tetłektsen ra ye yi rédatł. Tseyerotse tłi rayiniton.
all it in went, entirely they it in went. And-so out they-brought-it.

Aruruyeł ta-rayełni, ko niyonen ta-aradeni: "Nedatsetsen yininlen,"
And-then they-say-to-him, the newcomer they-say-to: "Whithersoever you-wish,"

rayełni, ko ten'a. Kĕlĕlē̆ttĕn, eit to-lyo: letān toruno
they-say-to-him, this man. The-steering-place, there he-went-up: he-lies-down while

kĕłlē̆t, ko ten'a. Torun masemake ketł a-na-rałnihtł. Kota, ketatłlet
he-steers, this man. Meanwhile the-boots food he-cooks. Now, he-is-steering

ko niyonen. Kun me tsĕn rulan, notortł, ko malorot. Torun
the newcomer. Also its wings there-are, it-flies, that steamer. Meanwhile

kon ko ten'a kełlet, letan toruno: kota toyon a-łtlat.
here this man steers, he-lies-down whilst: now a-boss he-is-become.

Kełlet, tseyerotset ayu malorot notortł; torun kełlet, torun me
He-steers, and-then there the-steamer flies; meanwhile he-steers, meanwhile it

yi rodalkon. Notortł, notortł, notortł, oda, notortł, notortł, notortł.
in there-is-fire. It-flies, flies, flies, all-along, it-flies, flies, flies.

Aruruyeł yuur ronten toyon ra'oł. Tseyerotse malorot no-réral.
And-then there suddenly a-rich-man walks. And-so the-steamboat came-down.

Tseyerotse ko kełleten, ko masemake yoro toyon a-keréł'on. Aruruyeł
And-so the steersman, the boots for-him the-rich-man fed. And-then

te-yełni: "ā̆dzĕkē̆! to-rurō̆lezū̆ntse tĕ-tā̆nnă! Ko ken
he-says-to-him: "Wonderful! how-nicely (these-people) are-doing! This what

tī̆łrŏ te-tsular? Ko tsa-ate me-tō-rosnoye bĕkĕltłā̆lā me
in-exchange-of shall-we-get? This very-last by-which-I-live axe it

tiłro ne tlo-rus'oł?" ko kełleten ałni. "O'o,"
in-exchange-for you I-will-give-to?" this steersman he-says-to. "Yes,"

yełni. Tseyerotset malorot yi yeré'on, ko bekeltłala. Tseyerotse
he-said-to-him. And-so the-steamer in he-put-it, this axe. And-so

masemake yuneka toyon yeréłzuk. Tseyerotse masemake malorot
the-boots landward the-boss he-took-them. And-so the-boots the-steamer

yi kala. "Tema ketł a-no-tołnihtł?" yinilen. Tse oda, oda,
in no-more. "Who food shall-cook?" he-thinks. And all-the-time, always,

raroł, notortł, ko malorot. Tseyerotset dzan nidzet ni-koroł. Aruruyeł
it-goes, it-flies, that steamer. And-so day middle-of it-stops. And-then

ronten te-yinilen ko kełleten: "Ken-é soro ketł
suddenly he-thinks the steersman: "What-is-this for-me food

a-no-tołnihtłte kun tĕslō̆rtsĕn?" yudeni, ko masemake
the-one-who-would-cook and that-I-did-to-him?" he-thinks-him, the boots

udeni. Aruruyeł yur tsei-dōkōkă rotsen ra-kedałokū̆t.
he-thinks. And-then some-where on-the-deck from (comes) the-noise-of-steps.

Aruruyeł tuur tsei-yi ronten ko-no-tałledatł, oda, kota.
And-then there in-the-boat suddenly they-began-to-walk, all-along, now.

Tseyerotse, raroł, notortł; oda no'ortł, notortł. Aruruyeł tuur ronten
And-so, it-goes, it-flies; always it-flies, flies. And-then there suddenly

toyon. Aruruyeł toyon ro no-réral. Tseyerotse malorot
a-rich-man. And-then the-rich-man to it-came-down. And-then the-steamer

yi réyo, ko toyon. Tseyerotse ko masemake toyon oro ketł
in he-went, this rich-man. And-then the boots the-rich-man for food

a-na-atłnik, tseyerot ko toyon a-keréł'on. Tseyerot ko toyon
cooked, and-so this rich-man fed. And-so this rich-man

te-deni: "Ărtĕ! ā̆dzĕkĕ! ken tiłro te-tsular é?"
says: "Oh! oh! wonderful! what in-exchange-for shall-we-get-it?"

yedetalni. "Ko zō̆ldă tāstū̆tł ko-denauestihe me tiłro
he-began-to-say-of-it. "This gold cane which-I-carry him in-exchange-for

ne tlo-duruston tsă-rā̆dĕné?" yełni, ko kełleten ałni.
you I-will-give-to can-it-be?" he-says-to-him, the steersman he-says-to.

"O'o," yełni. Tseyerotset kota toyon yuneko to-no-łleyo.
"Yes," he-says-to-him. And-so now the-rich-man landward went-back-up.

Tseyerotset ko masemake kun réłzuk ko toyon. Tseyerotse ko kełleten
And-so the boots also he-took this rich-man. And-so the steersman

eiten ko zolda tastū̆tł eite toko yatsen-ketatłtōtł. Aruruyeł nuur
he the gold cane it on-top-of unscrewed-something. And-then there

ronten tsei yi ronten ten'a rulân, ko zolda yi rŏtā̆nă.
suddenly the-boat in suddenly people there-are, that gold in the-people-of.

Tse ko eina ketł a-no-tatłnik. Tseyero kota no-tałlerał, tse oda,
And the these food cooked. And-so then it-started-again, and always,

oda, na-radoroł, na-radoroł. Tse dzan-nidzet ni-no-kodoroł. Aruruyeł
always, it-goes-back, it-goes-back. And at-midday it-stopped-again. And-then

te-yinilen ko kełleten: "To-eslor kunun soro ketł
he-thinks the steersman: "What-have-I-done again (with) for-me food

a-na-rałnihtłe? rotlo-taleslo!" yinilen. Tseyerotset ayu na-radoroł.
the-one-who-cooks? I-sold-him!" he-thinks. And-so there it-goes-back.

Aruruyeł yuura keréhtaa tsei-dokoka, aru rotsen ra-kedałokū̆t.
And-then somewhere on-the-gunwale on-the-deck, there from the-noise-of-steps-comes.

Aruruyeł tuur tsei yi ronten ko-no-tałledatł ko masemake.
And-then there the-boat in suddenly they-are-walking those boots.

Tseyerotsen ko zolda tastū̆tł, eite toko yatsen-no-ketatłtotł,
And-so the gold cane, this on-top-of he-unscrewed-something,

tseyerotsen ra ye yi no-rodidenik, tseyero kot masemake yan ketł
and-so they it in all-disappeared, and-so now the-boots only food

a-no-no-tatłnik. Ten'a nelan, iru, inte rayenił'ana. Tse
begin-again-to-cook. A-man it-is, although, but they-see-him-not. And

yuur na-radoroł. Araruyel kota, te yar no-natok,
there it-is-going-back. And-then at-last, his house it-flew-back-to,

no-idarał, ko malorot. Araruyeł toneko me yar, mo'-ot
it-came-back-to, this steamer. And-then inland his house, his-wife

tan yar ledoten, ronten nōnī̆lĕrō̆ză rŏtłī̆rŏ dĕnā̆dlĕrōs,
as-he knows at-home where-she-is, wonder lead on-top-of-it has-been-melted,

tseyero me yar rokala. Tseyerotsen ko toyon yan yet ro'ote ledo,
and-so his house there-is-not. And-so the boss only there near-by stays,

ro'otor ledo. Tseyerotsen ko bekeltłala dza ni'on. Tseyerotsen
near-by he-stays. And-so the axe out he-brought. And-so

yetatłtotł. Araruyeł bekeltłala lon; tseyerotse oden zīt
he-unscrewed-it. And-then axes very-many; and-so by-themselves

mara rotałletłatł ko nonileroza. Tse kōt zolda tastütł
by-them it-is-being-chopped that lead. And now (the) gold cane

tā̆-te-yilor. Araruyeł ronten me yi ten'a lon. Tseyerotse ta-raldatł,
he-turned-thus. And-then suddenly it in people many. And-so they-went-ashore,

tseyerotsen nonekot, yet ko nonileroza rotłiro denadlerosten, eit
and-so inland, there the lead on-top where-it-has-been-cast, there

tetłektse yerotsen bekeltłala ara rŏrŏtłāł. Tse kot bekeltlala
all thus the-axes by-means-of they-chop. And then the-axes

oden-zit tā-te-tan. Tseyero kota nonileroza kā̆lă, ro ko yar
by-themselves were-doing-so. And-so now lead no-more, that this house

tetłektsen rorotatłtłatł; tseyerotsen ko yar rŏnō̆rŭłyīt ronten! mo'-ot
entirely is-chopped-free; and-so the house inside-of oh! his-wife

rănā̆tłkŭn; kĕł'ō̆nă. Toyon yet ledonen eiten te-yełni: "Noneko,
is-dried-up; she-eats-not. The-boss there who-stays he says-to-him: "Inland,

tasi, no'-ot: 'Nī̆rŭtłkūt,' misni, iru; inte tsŏrū̆-tĕdĕnī̆gă
as-I-know, your-wife: 'Let-me-take-you,' I-say-to-her, in-vain; but she-is-unwilling

ta-rar'ana tasi ŏlō̆ră me tłiro denaletłrōs," yełni, ko kełleten
wherefore indeed lead her on-top-of I-melted," he-says-to-him, the steersman

ałni. Eiten noroł rolenek. Tseyerotsen ko ronten! ranatłkū̆n;
he-says-to. Him to he-tells. And-so there oh! she-is-dried-up;

keł'ona, tseyero ranatłkun, tĕtłĕ̄ktsĕ yĕrŏtsĕn. Tseyerotsen tsei
she-eats-not, and-so she-is-dried-up, all thus. And-so the-boat

yi yeréłtan, tseyerotset ra ye diloya tetłeka, ko toyon yor
in he-put-her, and-so they her things all, the boss from-her

réłzuke, eite na-raréłzuk, tse ko toyon kun raréłzuk, tetłektsen,
which-he-took, these they-took-back, and the boss also they-took, entirely,

ra yo-'ot yeł, ra ye diloya yeł keréłzuk, ko tastū̆ł yi rotana
they his-wife too, they his things too took-together, the cane in inhabitants

anta-ko	te-tanna.	Tseyerotsen	yar	rurutłsin,	ko	tastū̆tł	yi	rotana,	yar
it-were	who-did-so.	And-so	houses	they-built,	the	cane	in	inhabitants,	houses

rozuu	ror oreiron.	Eit	yar	raditadletłé.	Tseyerotse	masemake
fine	they-built.	(In) these	houses	they-began-to-stay.	And-then	the-boots

ketł	a-na-rałnihtł	tso-royā̆n,	tseyerotsen	niłkaatsen	diloy	oko
food	is-cooking	always,	and-so	in-all-directions	things	in-quest-of

no-tałleroihtł,	ko	malorot.	Tseyerotsarałte	toyon	a-ltlat	ko	kełleten.
it-began-to-travel,	that	steamer.	And-so-then	a-rich-man	he-became	that	steersman.

Tseyerotsarałte	rā-nō̆-kĕdĕlā̆r,	ko	toyon	rḗlă'ā̆n,	ko	ra	ye	diloya
And-so-then	he-sweeps,	the	rich-man	one-who-was,	the	they	his (whose)	things

rélzuken;	ra-no-kedelar	to-rŏkŏō̆tsĕnă	kĕtāl'ōn.	Kŏtā̆,	ra-no-kedelar
they-have-taken;	he-sweeps	which-for	he-eats.	Now,	he-sweeps

tso-royan,	kū̆n	atlā̆ł	tsŏ-royē̆ł;	ra-no-kedelar	tso-royeł,	to-rokootsena	kota
all-the-time,	firewood	he-chops	also;	he-sweeps	also,	for-which	now

ketal'on	tsŏ-rŏyā̆n.	Kota	ra-no-kedelar	to-rokootsena	ketal'on,	ko	toyon
he-eats	only.	Now	he-sweeps	which-for	he-eats,	the	boss

réla'an.	Kota.	Roih	ron	naletłkū́s.
he-who-was.	The-end.	Winter	a-part-of	I-chewed-away.

THE POOR YOUNG MAN.

In a certain place there lived a rich man, and near to him a poor young man who used to work for his rich neighbour. This young man had a good wife, and the rich man coveted her and said to him, "Give me that wife of yours." "No," said the poor boy, "you can't have her." And he refused to part with her. Then the other said to him, "Will you dare go to the devil's cavern?" "I will," he answered, "if you lend me your sword." "Yes," said the rich man, "you can have it." And the poor fellow started on his expedition. He was going, going on. He came to a high mountain, a huge mass of rocks, and there struck the headwaters of a creek. These lay between two steep walls of rock, which encased the stream, and in this narrow passage he went. The rocks formed a projection overhead, and from this long rope-like things were hanging down and twisting upwards and downwards (in a continuous motion). Notwithstanding this he was going, going, going along. The further he proceeded the more dreadfully these rope-like things twisted and twirled; still he went on, following the course of the stream.

Then he stopped and looked around him. He was in a kettle-shaped cave, the bottom of which was covered with boiling water; from this large bubbles were constantly coming forth. Looking up, he saw stretching above his head a huge jaw; and looking down he saw another enormous jaw beneath him. Then he realized that he had put himself in the very mouth of a devil; he had gone into it unawares. He was deep in it, close to the throat, where the boiling water was bubbling up. The long and twisting ropes were appendages of the devil's jaw, and now they began to encircle him and closed fast upon him. But he drew his sword and cut them. Then he ran out of the dreadful cave. Before going, as he saw the big teeth on the monster's jaw, he pulled out one of them and took it with him. After this he went back to his home. And he gave the devil's tooth to his master, and he also gave him back the sword.

During this time his wife had remained alone at home. But now her husband had returned. The night came, and that evening she related to him what had happened during his absence. "The rich man came to me in this house," she said "and he asked me to be his wife, but I would not." Thus did she tell her husband; however, he answered not a word.

After this the young man stayed at home for a long, long while. But a second time the rich man came to him and said, "Will you be bold enough to go to the nest of the man-eagle?" "I will," said the youth, "if you lend me your gun." "Yes," said the other, "you shall have it." And he went to his house to fetch the gun, and he handed it to the boy. This one also took a small pouch of cartridges, his own property, and his blanket, and off he went. He was walking, walking, and packing, packing the gun.

He came to a high mountain, and around the base of it he walked for a long time. Then he saw straight above the place where he stood, on the edge of a plateau, two high spruce trees (close to each other), and at the very top of these, there was the eagle's nest. Up the mountain he climbed to the foot of the trees, and up the trees he climbed until he reached the nest. Then passing his gun along the edge of the nest (so that the muzzle was just above it), he waited. There were two young eagles in the nest, to whom he spoke from his hiding place (or, after having settled himself in position), and said to the elder one, a young male, "Where are your father and your mother?" "My father and my mother," said the young eagle, "are gone to hunt for deer." "When your mother comes back to the eyrie," said the lad, "what happens then?" "When my mother comes back," said the eaglet, "a wet snow falls through the air." "And your father what happens when he comes back?" "Then hailstones fall all around." "Very, well," said the young man. And so much he learned from the male eaglet.

And while they all remained there waiting, he said to the young eagles, "Take care not to tell about me. If you let your parents know that I am here, I will kill you," said he. Then there fell a little wet snow, and he waited, and the mother eagle came back to her eyrie. In the claws of the one foot she carried young deer, one in each claw; in the one claw a young deer; in the other, a young deer; in the other a young deer, and so on. But in the claws of the other foot she carried men, one in the first claw, one in the next, and one in the next, and so on. All these she placed on the edge of the eyrie. Then she tore out the bowels of the men and gave them to her young, while she stood near to them. Just then the young man fired and killed her. Then he pushed off her body and it fell down to the ground. The deer and the men she had brought he also cast down, and settled himself in position to wait again. "Let neither of you," he said to the eaglets, "let neither of you mention my presence to your father." And he lay in wait.

Then there came a shower of hailstones; the male eagle was flying back. He alighted on the eyrie's edge and said to his young, "Where is your mother? She left before I did, and hasn't she come back yet?" But they answered, "No, our mother is not yet back." "Where can she be?" said they. "Not yet back? How can that be?" said the eagle. They said, "Indeed she is not here." He also was carrying young deer in his claws, on one side, a young deer to each claw; and men on the other side, a man in each claw. But he threw these down on the ground, and screamed, and began to claw the air at the eyrie's edge. Then the young man fired again and shot him dead. And he left the young eagles, sparing their lives, and went down the tree. He cut off the feet of the two eagles which he had killed, and with these he started back for his home. And after reaching the place, he gave back the gun to his master, and he gave him also the eagle's feet that he had brought.

He remained at home for a long, long time. But the master again came to him and said, "Will you go to find where some village lies?" "Yes," said he. And having taken bundles of dried fish, salmon and silver salmon, which he "packed" on his shoulders, the young man went. He went, went, went, packing, packing, packing. When he had walked for days after days, the sun began to grow warmer, and the snow began to thaw in the daytime under the heat of the sun. Still, he was going. He was exhausted. His supply of dried salmon gave out, and he lived on the grouse which he killed every day. He was hungry. Night after night he camped, and day after day he walked, till he came to the sea coast.

There at last he saw the village, and towards it he directed his course. He reached it after a long, long walk, and he entered into a house. There was nobody, not a soul. He began to walk to and fro in the house. On a shelf on the inland side he noticed a pair of boots. The place under and behind them was covered with silver. There was a trunk on the floor, and behind it a small space, into which he crept. There he lay down to die, as he thought. He was exhausted, emaciated, from his prolonged fasting; and there he was, lying down.

Suddenly there was a noise of a number of people coming back to the house. And the one who was first to enter, said aloud, "Boots, get us a meal." Then the boots came down from the shelf, and went to the stove on the opposite side, and made a fire, and began to prepare the meal. It was not long before everything was ready and the table set by the boots. The crowd took their meal in haste and departed. Then the newcomer crept out of his hiding place, and went out of the house to look around. He saw them scattering in all directions, every one on horseback. Then he entered the house again, and he addressed the boots, saying, "Boots, get me something to eat." Whereupon the boots jumped down and prepared a meal, and gave him to eat. And after having washed the dishes, they went back to the silver-lined shelf where they lay, whilst he returned to his hiding place behind the box. Again the inmates of the place came, and again they ate, the boots cooking for them. And then they went to sleep for the night.

The next morning, the first one to wake up called to the boots, "Boots, prepare the meal." Down came the boots, and they had their breakfast, immediately after getting up. And off they went. The newcomer came out, too, and said, "Boots, give me a meal." And so they did. After eating he remained in the house, and when the others came back and sat down to their meal as usual, he stayed among them and ate with them. And going out he saw a number of horses standing. Then he entered again, and he said to the boots, "Boots, I have had a very hard time on my way to your place, a very hard time indeed." The boots said to him, "What prompted you to come?" He answered, "I came because the master with whom I stay told me to do so." Then the boots said to him, "Follow me." And he followed the boots into the neighbouring house. There the boots mounted the stairs, but he remained below. He heard them walking overhead, and then the noise stopped.

Suddenly a steamer came down from the sky. He went aboard, and the whole band went aboard with him. And they made ready to go. Then they said to him, "Whithersoever you wish, go." So he went up to the pilot house, and he began to steer. He was comfortably stretched on a couch, and steered. The boots did the cooking. The steamer was a flying machine, it had wings. And the newcomer became its pilot (and captain); now he was a powerful man. The steamer, flying, steaming, went where he wanted, and onwards, onwards it flew.

Thus they came to a place where a rich man was passing. The steamer went down and stopped, and the boots prepared a meal for this man, as they were directed by the new captain. Then this rich man exclaimed, "Oh, the wonderful thing! How lucky these people are! What can I give in exchange for these boots? Will you accept my axe, the thing with which I make my living?" "Yes," said the captain. And the man gave him the axe, and went away with the boots. And, while the airship went its way, the captain felt sorry, "Who will cook the meals now?" he thought. And the ship was going, going, flying along. At midday it stopped. And the captain began to say to himself, "What have I done with my cook?" And as he thought so, a noise of steps was heard on the deck, the boots were there, walking about. And the airship resumed its course.

Again it came across a rich man passing by, and came down towards him and stopped. This rich man came aboard, and the boots prepared a meal and served it to him. He exclaimed, "Oh, what a wonder! What can I give in exchange for this? Will you take this gold cane which I am using?" "Yes," said the steersman. And the rich man went away with the boots. But the steersman unscrewed the upper end of the gold cane, and out of it came a multitude of people; they filled the whole ship, and they took charge of the cooking. The airship went on, flying back towards the poor boy's home. At midday it stopped again, and the captain thought, "Oh, what have I done with my cook? Why did

I sell him?" Instantly a noise of steps came from the deck, and there were the boots going around. Seeing them, he unscrewed the end of the gold cane, and back into it the whole crowd that had come out disappeared. The boots resumed the charge of the galley. It was a man, but invisible. And the ship was going.

At last it came to the house of the poor young man, now master of the ship. What was his surprise to find that the house had disappeared under a mass of lead, which had been melted and poured over it. His former master was still living close by. He took out the axe and unscrewed it, and a multitude of axes came out, and began to move by themselves, no one handling them, and to chop out the mound of lead. Then he unscrewed the gold cane, and the people came out from it and went up the bank, and got hold of the axes and set to work chopping off the lead. It was soon cleared away, and in the house they found his wife, almost reduced to a skeleton, starved. Then his former master said to him, "I proposed to your wife and she wouldn't accept me, that is why I buried her under the molten lead." Thus he confessed his crime. They took the unfortunate woman to the ship, almost dead from her long starvation, and they took back all her property which the rich man had stolen. Then they took him also, with his wife and property. It was the people from the cane who did this.

And these same people built some fine houses, where they established themselves. The boots were continually employed in cooking; the airship was used to travel around and bring the necessary supplies to the new village, and the steersman became a mighty ruler. As for his former master, he was reduced to sweep for his living; he was sweeping for his board, nothing else. He swept, and swept, and all he ever got for his sweeping was his food. Thus, he who had been a rich man, became a poor sweeper.

I have chewed away a part of the winter.

NOTES.

This story is presented by natives as a Russian tale, and it contains many evidences of a foreign origin. It is not unlikely, however, that, especially in the first part of it, there should be an admixture of native elements. The style is loose and lengthy, with numerous useless repetitions, features which are by no means uncommon in the folk-lore of the lower tribes. The dialect may be considered as a fair example of the language spoken at Nulato, a blend of the two dialects, using words and expressions from both.

"tōyōn," a rich man, an influential person, a "boss," a chief. See the notes on III.

"to-'ot rŏ nĕtsĕn," he keeps his wife for himself.

"tłā yīt dza no-to-kărăltār razeniten," the place where devils are said to jump out from the rock into the water. We would call it the Devils' cave. The devils are denoted here by the impersonal indefinite pronoun "ke" combined with the root "tar," expressing the swift motien of a live being. The word used by the Ten'a to designate their devils, nĕkĕdzăltāră, is composed of the same two essential elements, with some accidental ones. The Ten'a devil is corporeal, though endowed with all the other properties of evil spirits, such as instantaneous motion, knowledge of distant things, etc.

"me-ten'a-ītlŏrtla," sword. The word is genuine Ten'a, made probably in recent times, and expresses a man-cutter, a thing wherewith to cut people.

"rŏntōna," a projection, viz., of the rock; from the preposition "nton" or "neton," projecting over.

"bĭlōrka," rope; a word adopted from the Russian. Those rope-like things are said to be plants growing in the forests, which will entwine a man and kill him.

"no-kedzĕstł-rōlał," large bubbles are coming up. The word "kedzestł" implies that the bubbles are about the size of a man's fist.

"nĕkĕdzăltāră," devil. See above.

"nărălnīha," raw hide; the native rope. It is made of the moose-skin, wet, cut in long strips and then stretched to dry.

"mo rŭ," its teeth. The upper dialect word; the lower one has "lotlo'o."

"to-kŭn kātlo," in place of her husband, *i.e.*, she occupies the house in his absence.

"tāsĭ," you know, or I know; it is sure, etc. The lower dialect uses "istan."

"īnlān," the Indicative Present, in the second person, serves as an Imperative.

"tān," has practically the same meaning as "tasi," "istan."

"tĕltŭdla," the proper word for gun, from the root "tŭtł," to make a loud noise.

"kedōtła," bullet. Also a genuine Ten'a word, though of recent manufacture, meaning, literally "a cut piece." The bullets were supposed by natives to be manufactured by cutting a bar of lead in pieces.

"lĕł," sack, lit. skin; the term is applied to any sheath or casing made of skin or flexible matter. "Kedotla" being also used, by extension, to mean the whole cartridge and "łeł," meaning a belt, the term "kedotła leł" may as well signify a cartridge-belt.

"yetāne," which he has, *i.e.*, his own property.

"ko-īraih," he "packs," *i.e.*, he carries in a bundle on his shoulders.

"yedenāltlĭh ko teltŭdla," he thrust it, the gun. This repetition of the object is a lower dialect turn. The root "tlaih" ("tlih," "tlihtł"), expresses the stretching of some stiff object in a certain direction.

"ma-kădo," upon it, viz., the nest. We would rather say "in it."

"ko yur to-lyote." As the Ten'a uses the same forms for time and place, this phrase is referable to either, and may mean "as soon as he had settled himself there," or "from the place where he had settled himself."

"kḗla," male, lit. a young male. The same word used for human beings means a youth, a lad, a young man, as we see that the hero of this story is styled: "kél" (for "kéla,") "yokala."

"rō nōn yeł, rō ne-tō yeł, rōdé?" where are your father and your mother? It should be noticed that the demonstratives "ro, rodé," carry no interrogation with them, but simply mean "that" or "there." In constructions like these, however, they have, by custom, the force of an interrogative.

" an ko-ranātor," they are hunting, lit. they are flying on the hunt. The idea of hunting is conveyed by the prefixes " an ko "; that of flying, by the root " tor."

" kentłūka," wet, lit. slushy.

" ne-tĕłnăka," thy parents. This singular with the plural verb seems abnormal, and one would rather expect: " yor-tełnaka," your parents. It is not common in Ten'a.

" ma kālekŭna tor," in her claws. The adverb " tor " is distributive. It is remarkable that the narrator repeating his phrase five times (pointing at each time to one of his fingers) assumes that the eagle has five claws. I remarked to him that he was putting too many, but he simply smiled disdainfully at my observation and proceeded to the other similar enumerations. Perhaps the man-eagle has five toes!

" eina kōn," the bowels of these, lit. the bellies.

" ketłtŭł," he fired his gun. The verb has been deftly made, as the name " teltŭdla," gun, from the native root: " tŭtł," to make a loud noise.

" nĕł-e kă'ăna," both of you, or rather, either of you.

" nedĕn," for " nedān," no; most commonly used by children.

" ranāleta," one to each. A special verb to convey this idea.

" kāyar rūl'on tsedeniten," where it is said that there is a village. The phrase is very obscure, and seems to imply that a village was to them an extraordinary thing.

" nulār tsĕdza yeł larān yeł," dried salmon and (dried) silver-salmon. About the species of salmon see notes on IV.

" ăłă'ōna," the black grouse, or Canada grouse (*Canachites canadensis*, and *C. Franklini*, of naturalists). The common word is " toledoya," " the sitter," alluding to the obstinate persistency with which it remains undisturbed on its perch. The term " ała'ona, the spruce-eater," reminds one of the name also used for it by the whites, " spruce-partridge."

" tokŭrbāra," the sea-coast, lit. the edge of the big water.

" yet īdo nīyo," he went in, viz., into a house, as the prefix " ido," indicates.

" măsĕmăkĕ," boots. The word is borrowed from the Russian and applies only to white men's shoes, leather boots, rubber boots. The native shoes are termed " kākĕna, kātsŭł," etc.

" dīnka," silver. A term introduced from the Russian, and commonly used for " money."

" tā-to-rūta ru," in a place like this. The phrase was accompanied by a gesture describing the narrowness of the place.

" yāsĕk," box. Word borrowed from the Russian.

" kĕł'ōna tŏkŏdékūn ranātłkŭn," he does not eat because he is very thin: it seems that the consequence should be reversed, but the phrase is probably to be understood: he does not eat, he has been without food for a long time (this is clear), because he is very thin.

"bĕlīdă, stove." From the Russian.

"stōl kătsen," on the table. "Stol, stola," table, another Russian word that has passed into the language.

"lōsĕt," horse. Again a Russian term.

"yutaka," upstairs, lit. up. The native adverb, now understood to mean the upper story.

"mălŏrŏt," steamer. From the Russian.

"lĕtān tŏrūno kĕłlĕt," he steers whilst lying bown, *i.c.*, very comfortably.

"bekeltłāla," a genuine Ten'a word, probably applied to the stone-axe before the Russian times. The upper dialect has also "tłătłīł."

"tsēī dŏkōkă," the deck, lit. the covering of the boat. A Ten'a expression.

"ărté," sometimes pronounced "akté," an interjection of surprise, proper to the lower dialect, and said to be of Russian origin.

"zōldă," gold; from the Russian.

"tāstűtł," cane. The true meaning is "a pole," viz., used for "poling" boats against the stream; the word is genuine Ten'a.

"yātsen ketătłtōtł," unscrewed, lit. "turned the other way."

"nonīlrŏza," lead. A Ten'a word from the verb "netłrōs," to melt; it denotes "the thing that is melted, that can be melted."

"tā-te-yīlor," he turned thus; the phrase being accompanied by a gesture of unscrewing.

"tā te-tān," are doing thus. Another gesture, showing a chopping motion.

"olōra," lead. This term is given as the Russian equivalent of "nonilroza."

"ra-no-kedelar," he sweeps. The practice was known to the Ten'a before the coming of the whites. It was done with a bunch of branches.

The story was written under the dictation of Ambrose Tsenokoleyala, a native of Tatsenibanten, some eighteen miles below Nulato, assisted by Andrew Keniyo of Tsenoketlarten, on the Koyukuk River. The narrator lives at Nulato, and speaks the language of the place.

THE CANOES OF THE BRITISH SOLOMON ISLANDS

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[WITH PLATES XL—XLVI.]

THE beauty of the Solomon Island canoes has excited the admiration of all voyagers from the time the islands were first visited by white men. Alvaro de Mendaña, the first discoverer, who visited the islands in 1568, says, "Their canoes are very well made and very light; they are shaped like a crescent, the largest holding about thirty persons. They are so swift that, although our ships under sail started two leagues ahead of them, with a good wind and all the sails set, they caught us up within the hour. Their speed in rowing is marvellous; they row in the fashion of the people of Cartagena."[1]

Carteret, in 1767, seized a canoe off the north-west end of Malaita, which he describes as follows: "The canoe or boat was large enough to carry eight or ten men, and was very neatly built, with planks well jointed: it was adorned with shell work, and figures rudely painted; and the seams were covered with a substance somewhat like our black putty, but it appeared to be of a better consistence."[2]

Monsieur de Bougainville, in 1768, thus describes two canoes taken by him at Choiseul Bay. "Two of their canoes were taken, which are long, and well built, and very high at each end, so that by turning either towards the enemy, they obtained shelter from their arrows. On the forepart of one of these canoes, was the head of a man carved; the eyes were of mother-of-pearl, the ears of tortoise-shell, the lips were stained of a very bright scarlet, and the whole had the appearance of a mask, with a very long beard."[3]

Surville, in 1769, describes the canoes met with by him at Port Praslin on Ysabel Island as follows:—

"The canoes of these islanders are constructed with great good sense, and finished with much skill: they are not formed of a trunk of a tree, made hollow by stone implements or fire, as those of many savage nations are, but are made of

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[1] *The Discovery of the Solomon Islands by Alvaro de Mendaña in* 1568. Hakluyt Soc., 1901, p. 109.

[2] *Discoveries of the French to the South-East of New Guinea.* Translated from the French, p. 68. Stockdale, London, 1791.

[3] *Discoveries of the French*, p. 94.

ERRATA.

In Vol. XXXIX, the Canoe illustrated on Plates XLI, XLII, XLIII, XLIV, is wrongly described as coming from Ysabel; it should be New Georgia.

pieces put together. In the small canoes the planks are not more than a third of an inch in thickness, and in working them they form on the inside a kind of loops, which at intervals are tied strongly with rattan to ribs of wood, bent in the shape of the boat, and serving as its frame; nor are the planks held together by any other means; the joints are stopped with a black mastic, tolerably hard, which renders these frail vessels impenetrable to the water. The prow and stern are raised very high, apparently for the purpose of defending the warriors in them from arrows, by presenting either end to the enemy: and in general they are ornamented with pieces of mother-of-pearl, forming different designs, and applied with mastic. . . . One was seen 56 feet long by 3½ feet broad."[1]

Lieutenant Shortland, during his voyage from Botany Bay to Batavia in the *Friendship* and *Alexander* in 1788, remarks upon the canoes which visited his ship off the island of Simbo: "Their canoes, which contain from six to fourteen men, seemed to be well put together, the bows and sterns very lofty, carved with various figures, and stained with a kind of red paint."[2]

M. Labillardiere in his account of the *Voyage in Search of La Pérouse*, gives an illustration of a canoe which visited the *Recherche* off the island of Ulawa, and remarked, "We admired the elegant form of their canoes, which were exactly similar to those we had seen the preceding days at the easterly part of the Arsacides. They were about twenty-one feet in length, two in breadth, and fifteen inches in depth. The bottom consisted of a single piece cut from the trunk of a tree, and the sides were formed of a plank, the whole length of the boat, supported by beams fixed at equal distances into the bottom: at both ends other planks were attached to the first. These were ornamented on the outside with figures of birds, fishes, etc., rudely carved. The greater part of the canoes were terminated in front with the head of a bird, under which was seen a large bunch of fringe coloured with a red dye, which appeared to me to have been made of the leaves of the vacoua. The other extremity of the boat was likewise ornamented with red fringe, and here we frequently observed, in the inner side, the carving of a dog projecting from the vessel, which led me to suppose that the savages possess this animal. I was surprised to observe that they had given it nearly the form of a bloodhound; though it is probable that they do not possess that species, but that the carving was nothing more than an imperfect representation of the dog usually met with in the South Sea Islands."[3]

Lastly, Brenchley in *Cruise of H.M.S. "Curaçoa"* in 1865 refers to the canoes of Ulawa Island and to the lightness and swiftness of the canoes seen by him at Florida Island.[4]

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[1] *Discoveries of the French*, p. 139.

[2] *Voyage of Governor Philip to Botany Bay.* London, Stockdale, 1789, p. 198.

[3] *Voyage in Search of La Pérouse*, by Monsieur Labillardiere. Translated from the French London, Stockdale, 1800. Vol. ii, p. 277.

[4] *Cruise of H.M.S. "Curaçoa" in* 1865, by Julius Brenchley. London, Longmans, 1873, pp. 249, 279.

I propose in the following paper to give some account of these canoes and of the method of their construction, together with the native names of the various parts. It will be observed that the names for the separate parts of the canoes differ in each locality and even in places so near to one another as New Georgia and Vekavekala, but the scope of the present paper does not permit me to enter upon the subject of Solomon Island languages.

This particular type of built-up canoe appears to be peculiar altogether to the Melanesian inhabitants of the British Solomons.

In the German Islands of Bougainville and Bouka to the north-west, the type of dug-out canoe with the outrigger is observed, and the same type of canoe occurs in the Santa Cruz Group and in the New Hebrides to the south-east.

It is comparatively easy to determine at a glance the place of origin of one of these Solomon Island canoes, since the shape and scheme of ornamentation differ on the various islands.

For accuracy and neatness in construction I am inclined to award the palm to the canoes of the Shortland group in the Bougainville Straits, while for beauty of line and exterior decorations the large *tomako* or head-hunting canoe of the New Georgia group unquestionably excels.

It is difficult to understand how the natives were able, before they became acquainted with iron tools, to adze down the canoe planks to the requisite degree of thinness and shape them with the aid only of stone implements, but it appears from the descriptions above quoted that they undoubtedly did so, and that the canoes have changed but little in type since the days of Mendaña.

The plane iron, fitted into a handle of similar form to that previously used for the stone implement, is now universally used in cutting and shaping the planks; the expertness of the canoe builders in the use of this tool is marvellous; they will follow a curved or wavy line or cut out a concave surface with the greatest accuracy.

A plan is first drawn down on wood by an expert canoe designer, to which the builders work.

In most places, except on Malaita, a central ridge is left along the centre of each plank; this adds to the strength of the canoe.

In the Malaita canoes the planks are thicker and do not require the added strength of a central ridge.

In addition to the central ridge along the planks a projecting boss is left at the places where the planks meet the timbers. The planks are lashed to the timbers with strips of fibre which pass through holes drilled in the projecting bosses.

Surville is incorrect in stating that the ribs or timbers are of bent wood. On the contrary the timbers are either naturally grown or shaped from the solid, as will appear from the illustrations given.

The planks, after being roughly adzed out, are lashed tightly together, the corresponding planks from each side of the future canoe, outsides together, and placed in the canoe houses to season before being finally assembled.

In building, the edge of each plank is accurately fitted to that next to it. Holes are bored at about two inches interval along the edges of each plank, corresponding with similar holes in the adjoining plank and a separate lashing of fibre, very neatly fastened, is made at each pair of opposite holes.

For boring the holes the natives make use of a pump drill, tipped with a flake of chalcedony, and they appear to adhere to this primitive tool in preference even to an ordinary awl or gimlet.

When the whole canoe is thus accurately fitted and sewn together, the seams are covered with a thick dressing of vegetable putty, made from the scraped kernel of the nut of the tree *Parinarium laurinum.* This putty when first applied is of a lightish brown colour, but soon becomes black, and hardens completely in about four days.

Description of the different parts of a canoe of Shortland Island, in the Bougainville Straits (Plate XL) :—

A large canoe	*Kinu.*
A small canoe	*Goa.*
1. The garboard strakes	*Hangamiri.*
2.	*Ora.*
3. The second strakes	*Haunisi.*
4.	*Aharai.*
5. The third strakes	*Hatalanaonao.*
6.	*Lovulovu.*
7. The stem and stern pieces	*Dito* or *Sito.*
8. The fourth strakes	*Hamori.*
9. The fifth strakes	*Si-ing.*
10.	*Aporisi.*
11. The gunwale strakes	*Dra-o-hosi,* or *Drau-ung-hosi,* or *Pogopogo,* or *Togolo.*
12.	*Makatoa.*
13. Flat representations of faces looking both ways on bow and stern.	*Vos-ara* or *Bos-ara.*
If an image carved in the round as shown in woodcut.	*Beku.*
Central ridges left along the planks inside canoe.	*Girigiri.*
Finials of ridges of Lovulovu (6)	*Vagovana.*
C. The timbers	*Siu.*
D. The small solid, wedge-shaped timber in bow, with ornament.	*Tuvituvi.*
The bow	*Kove.*

The stern	*Tautau.*
The fibre for sewing seams	*U-we.*
The putty	*Tita.*
The plug hole	*Utina.*

Note.—The numbers and letters refer to the illustration, and they are numbered in the order in which a canoe would be put together.

The illustration of the parts of the Shortland Island canoe is complete in itself but I have added another (Fig. 1) showing the commencement of a smaller canoe which is particularly interesting as showing the ingenious break of joint between the *Hangamiri* and *Ora*, in which the raised ridges and bosses are clearly shown.

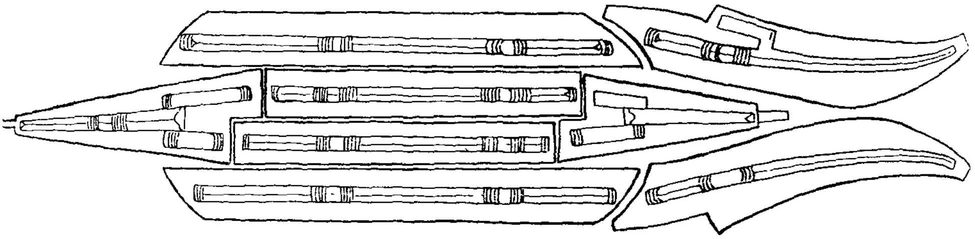


FIG. 1.

For the illustration of the complete canoe I am indebted to Mr. N. S. Heffernan, Resident Magistrate at Shortland Island. The illustration of the commencement of the smaller canoe was made by me so long ago as 1886.

I now come to the *tomako* or large head-hunting canoe of the New Georgia group and adjacent islands.

Since the islands were first discovered by the Spaniards, and probably for many centuries before that, the natives of this part of the Solomons had been in the habit of making raids upon neighbouring islands for the purpose of taking human heads and capturing slaves.

Starting out in parties consisting sometimes of only one large canoe, but occasionally in fleets, they would visit the Russell Island group and the western portion of the large island of Guadalcanar, or would sweep down the coasts of Choiseul and Ysabel, and have even been known to extend their raids to the island of Malaita. The consequences have been that the native population of the Russell Island Group has been almost wiped out, and that on Ysabel the remnants of the coast people have had to desert the sea-board and to take refuge in the mountains.

During my first visit to New Georgia in 1886 no less than forty heads, besides slaves, were brought back from Ysabel in the course of my stay of two weeks, and a similar state of affairs continued up to and after the declaration of the British Protectorate in 1893. Consequently one of the first duties of administration was to put down head-hunting with a strong hand. I am glad to be able to say that at the present time it is almost, if not quite, a thing of the past. On Ysabel especially has the result been most noticeable, as the refugees are returning from the bush and are again taking possession of the deserted sites along the coast.

The canoe from which the illustrations are taken was the last in which a raid for heads was made, about ten years ago, to the island of Ysabel. (Plates XLI–XLIV.)

It was in consequence of this raid, during which five heads were taken at Pirihadi in the Bugotu district of Ysabel, that it became necessary for me to take measures for the punishment of the guilty parties, who lived on an island near Oneavisi, New Georgia. One native was killed and the canoe, fresh from its baptism of blood, was captured.

For several years after its capture it was used at the Government Station at Gizo, but having become leaky and almost past repair, I offered to pack it and to deliver it in Sydney at my own expense, if it could be conveyed home from there to London for the British Museum.

Funds were unfortunately not forthcoming for the purpose, and the canoe was subsequently purchased on the spot for a German collection, and is, I believe, at present either in Hamburg or Berlin.

It is an extremely fine specimen of a New Georgia *tomako,* and I think it unlikely that such a fine example will be built again.

The measurements are as follows:—Length, from outside of bow to outside of stern, 44 feet, beam 4 feet 8 inches, depth 2 feet 4 inches, height of bow 9 feet 7 inches, height of stern 10 feet 9 inches.

For the illustrations I am indebted to Mr. T. W. Edge-Partington, Resident Magistrate at Gizo.

I procured a small canoe a few years ago, a faithful model in all respects of the larger *tomako,* built especially to order for Mr. F. J. Wootton Isaacson. The greatest care was taken in the building and decoration, and nearly eighteen months were required to finish it. Speaking from memory, I think the length of the canoe was about 24 feet. It is at present deposited in the Bethnal Green Museum.

DESCRIPTION OF THE DIFFERENT PARTS OF A TOMAKO, OR HEAD-HUNTING CANOE OF NEW GEORGIA GROUP.

English.	Language of New Georgia Main Island.	Language of Gore-gore or Vekavekala.
The keel	*Kutakuta*	*Puru.*
Garboard strake	*Tako*	*Sese.*
Second „	*Ngamutu*	*Derungana.*
Third „	*Loloko*	*Tonavana.*
Fourth „	*Kimo*...	*Kimo.*

English.	Language of New Georgia Main Island.	Language of Gore-gore or Vekavekala.
Gunwale strake	*Nangonangotu* ...	*Nipindi.*
Central ridge along each plank ...	*Vunu*	*Lakolako.*
Ribs or timbers	*Lako*	*Unu.*
Sticks across tops of timbers ...	*Mongamonga*... ...	*Mongamonga.*
Seats	*Lambalambati* ...	*Papani.*
Round poles running fore and aft resting on timbers to support seats.	*Harangana*	*Mengovele* (?)
Step for mast	*Turudendegere* ...	*Kotongungore.*
Mast	*Dendegere*	*Ngungore.*
Lashings inside stem and stern ...	*Pisopiso*	*Mengovele* (?)
Small wooden cross-pieces inside stem and stern.	*Gavagavara*	*Katakata.*
Triangular shell ornaments inside stem.	*Barava*	*Rangangasi.*
White egg shells on stem	*Banga*	*Banga.*
Red ladder-shaped ornamentation on stem.	*Vakavakisu*	*Mike.*
Figure-head	*Musumusu*	*Wunguwungu.*
Two human figures on top of stem ...	*Beku*	*Gelana.*
The stem	*Humbehumbe* ...	*Keve.*
The stern	*Humbehumbe tatava*...	*Ngomakeve.*
The row of small shells inside the stern.	*Barambuni*	*Vakakopela.*
The plug-hole	*Bulongo*	*Miu.*
The nautilus shell inlay ornamentation.	*Kanda*	*Kerava.*
The pennant flown from the stem ...	*Tetepanika*	*Uthapasipasi*
The inlaid ornament on stem representing rainbow.	*Busambigombigo* ...	*Gosi.*
Triangular white patch on lower part of stem and stern.	*Busamgamutu* ...	—
Lower stem plank	*Ngamutu*	*Derugana.*
Continuation of keel to top of stem and stern.	*Leveri*	*Raravi.*

English.	Language of New Georgia Main Island.	Language of Gore-gore or Vekavekala.
The white painted arm with extended fingers on side of canoe, indicating that heads have been taken. If forward it indicates male heads, and if aft it indicates female heads.	*Limambovo*	*Kurukuru.*
The cement	*Tita*	*Tita.*
The vane on top of stern	*Pitipiti*	*Pitipiti.*
The two faces on stern	*Batungela*	*Gelana.*
The fibre for sewing the planks ...	*Suvulu*	
Holes in planks for fibre	*Su-suvulu*	
Bunch of feathers on bow	*Hogo*	
The names of the various parts of the pump drill for boring the holes :—		
The flint top	*Livulivona*	
The fly-wheel or spindle-whorl ...	*Bolokana*	
Pump handle...	*Papalakana*	
The spindle	*Kokomburuna dinderi*	
The drill as a whole	*Dinderi*	

Attention is directed to the two small human figures looking out fore and aft at the top of the stem, as well as to the larger figure-head near the water line, and the two Janus faces looking out to starboard and port from the top of the stern. Thus watch is kept in every direction.

The white arms on each side of the canoe, indicating that heads have been taken, are, it is believed, not permanent, but are marked with coral lime after a successful raid. The canoe in question had them marked.

The inlaid ornament on the stem, representing the rainbow, is curious and most interesting. It is constantly met in the canoes of New Georgia. In the smaller and less elaborately decorated canoes I have seen attempts to imitate a rainbow made with various coloured paints.

It is, I think, possible that when the canoes pass swiftly through the water a foam bow might appear beneath the stem near the position indicated, which would, as Lord Tennyson puts it, "brighten as the foam bow brightens when the wind blows the foam," and that the ornament is an attempt to fix permanently this elusive and beautiful phenomenon.

The next type of canoe is that used on Ysabel Island, and the same type is in use at Savo, Florida and on Guadalcanar.

The natives of Ysabel do a good business in building canoes for sale to the natives of ths neighbouring islands.

The bows of these canoes are frequently tastefully ornamented with shell inlay and colours, but the elaborate scheme of decoration shown in the *tomako* of New Georgia is not met with.

The lines and curves are particularly graceful, as is shown in the illustrations. (Plate XLV.)

Description of a *biabina* or large canoe in the language of the Bugotu district of Ysabel Island :—

The planking	*Na pava.*
1. The keel	*Sara.*
2. The garboard strake	*Gaileka.*
3. The second strake	*Vita.*
4. The third strake...	*Poapoga.*
5. The gunwale strake	*Ragi.*
The central ridge left along each plank	*Ngaingaji.*
The bosses projecting from the planks for lashing to the timbers.	*Puipuhi.*
The last boss in the *vita*	*Noonoko.*
The forward rib or timber	*Luhu.*
The central rib or timber	*Tango.*
The after rib or timber	*Jata.*
Two poles, lashed along inside the canoe, resting on the timbers and lashed to them to support the seats and to prevent them from touching and straining the planks.	*Binalagi.*
Lashings for tying the timbers to the planks ...	*Tari.*

From their positions—*Tari luhu, Tari tango* or *Tari jata.*

A.	*Boeboke.*
B.	*Ragi.*
C.	*Korebi.*
D.	*Legu.*
E. Keel band at bow and stern	*Toroko.*

The stern one, *Toroko-legu*; the bow one, *Toroko-nago.*

F. Top of bow	*Bilugau.*
G. Small wedge-shaped piece of wood on bow ...	*Suasuma.*
H. The wash-board	*Laulau.*

I.	The figure board in stern	*Sula daudau.*
J.	Small cross-pieces lashed to bosses on *Laulau* to strengthen the stem	*Konga laulau.*

The last type of canoe of which I am able to supply a description is that in use at the island of Malaita.

The lines of the Malaita canoes are not so elegant as those of other islands, and in comparison with them they have, to a critical eye, somewhat of a clumsy and box-like appearance.

The planks are thicker, and consequently no ridge is left along the centre of each. Nevertheless, they have a certain distinctiveness of decoration all their own. The decoration is produced by black coloration upon the planks, which are otherwise left in their natural condition.

The canoes are broader in proportion than the *tomako* of New Georgia, as will appear from the measurements given, the large *tomako* illustrated above being 44 feet in length with a beam of only 4 feet 8 inches, and the Malaita canoe here represented being only 42 feet in length, with a beam of 5 feet 3 inches.

Names of parts of large Malaita canoe or *Baru,* as illustrated (Plate XLVI):—

Length, 42 feet; depth, 3 feet 3 inches; beam, 5 feet 3 inches.

(A small Malaita canoe is called *Jola* or *Yola.*)

1.	A small projection on top of bow and stern	*Siko.*
2.	The top piece at bow and stern	*Aingali.*
3.	The second piece at bow and stern	*Roa.*
4.	The third piece at bow and stern	*Bali.*
5.	The fish ornament at bow	*Lodo-ia.*
6.	The bow-shaped carved ornaments	*Baruague.*
7.	The twelve fish carvings	*Buma.*
8.	The black painted ornamentation	*Uliuli.*
9.	The keel	*Gau.*
10.	The stem and stern pieces, continuations of keel.	*Uguraia.*
11.	The bow	*Lau-u.*
12.	The stern	*Buri.*
13.	The garboard strakes	*Aifou.*
14.	The second strakes	*Landa.*
15.	The third strakes	*Tauvaro.*
16.	The gunwale strakes	*Auloho.*
17.	The ribs or timbers	*Lusu.*
18.	The two poles resting on and lashed to timbers or ribs, and running right fore and aft to support the seats.	*Lula.*
19.	The projecting bosses left on the inside of the strakes, to which the ribs or timbers are tied.	*Teiteia.*

	No central projection is left along the strakes in the Malaita canoe to strengthen them, as the wood is thicker than is found in the Ysabel and New Georgia canoes.	
20.	The cement for the seams	*Raia.*
21.	The fibre for sewing seams	*Rata.*
22.	Small cross-lashings inside bow and stern	*Bobo.*
23.	Small lashings inside raised part of bow and stern.	*Lolonga.*
24.	The plug hole	*Suvula.*

There remains only one other type of Solomon Islands canoe, and I am not at present prepared to supply a description of it. It is the type in use at Ulawa, San Cristoval and Santa Anna.

A very good small specimen is in the collection of the British Museum, and has been illustrated in *The Discovery of the Solomon Islands,* published for the Hakluyt Society, London, 1901, p. xxii.

Labillardiere's description of this type of canoe quoted above is very accurate. The bunches of coloured fibre and the figure of the dog inside the stern are represented in the British Museum specimen, and are generally observed in existing examples.

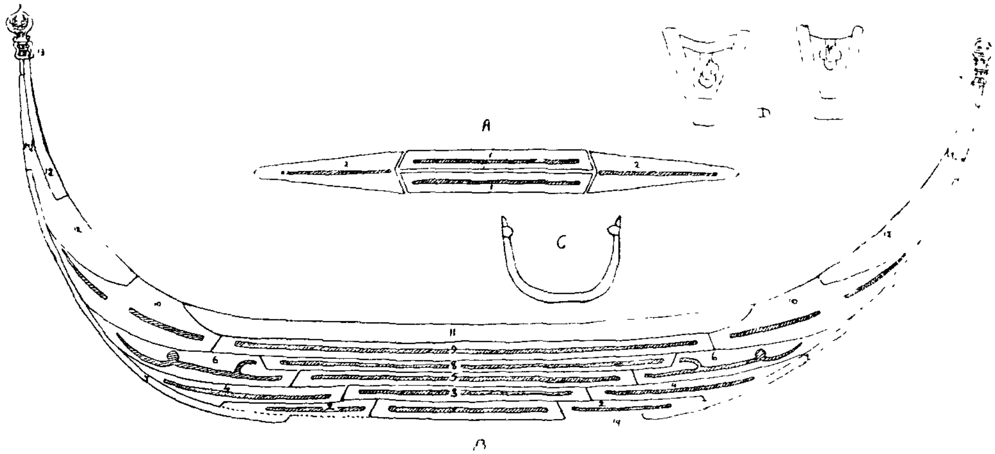
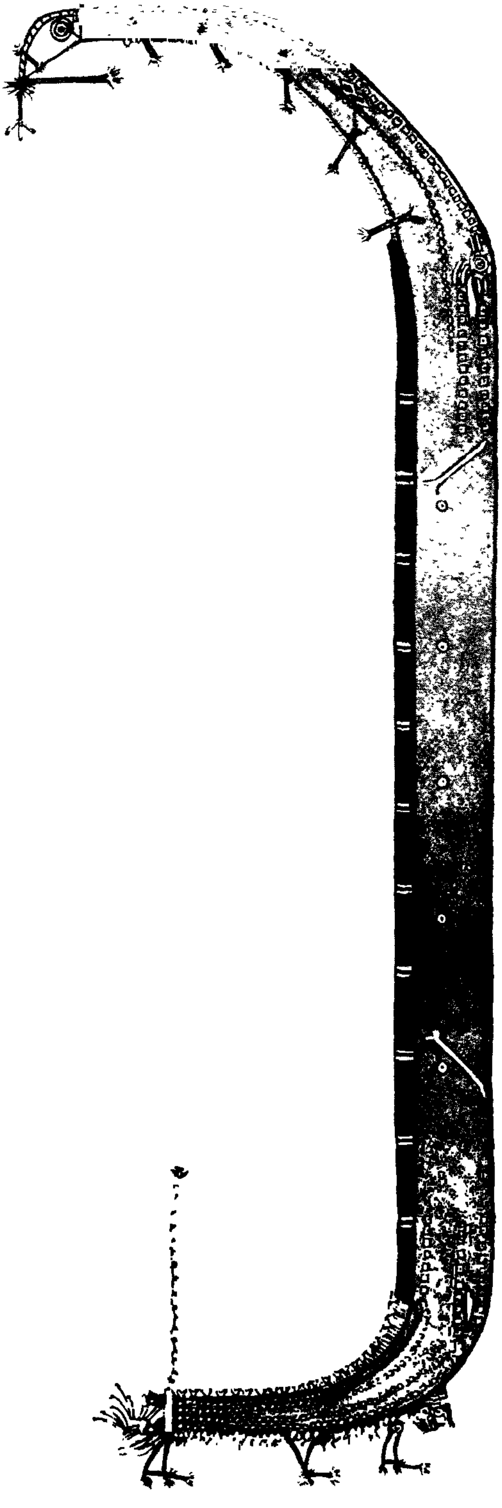


DIAGRAM OF SHORTLAND ISLAND CANOE.

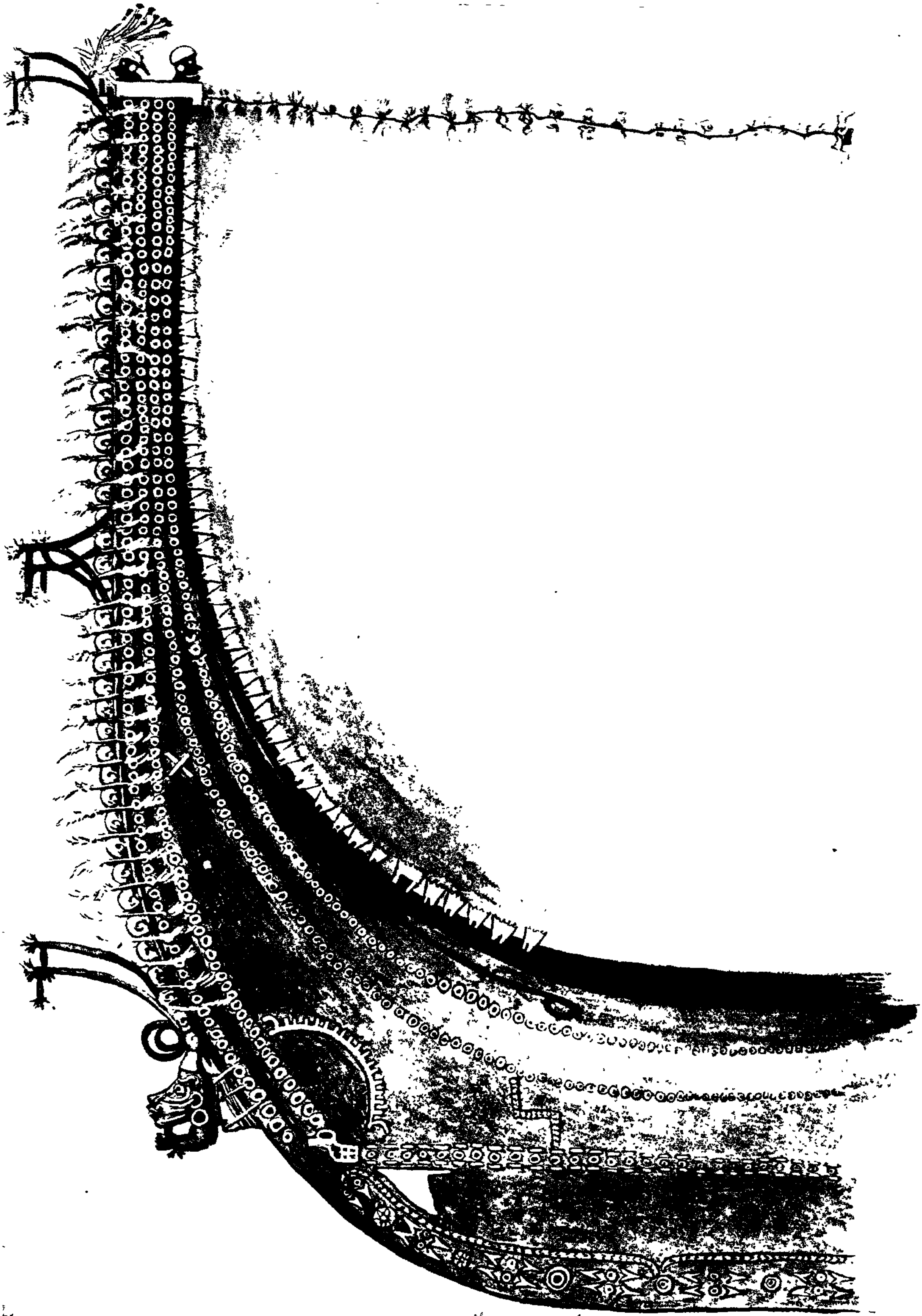
CANOE FROM SHORTLAND ISLAND.

CANOES OF THE BRITISH SOLOMON ISLANDS



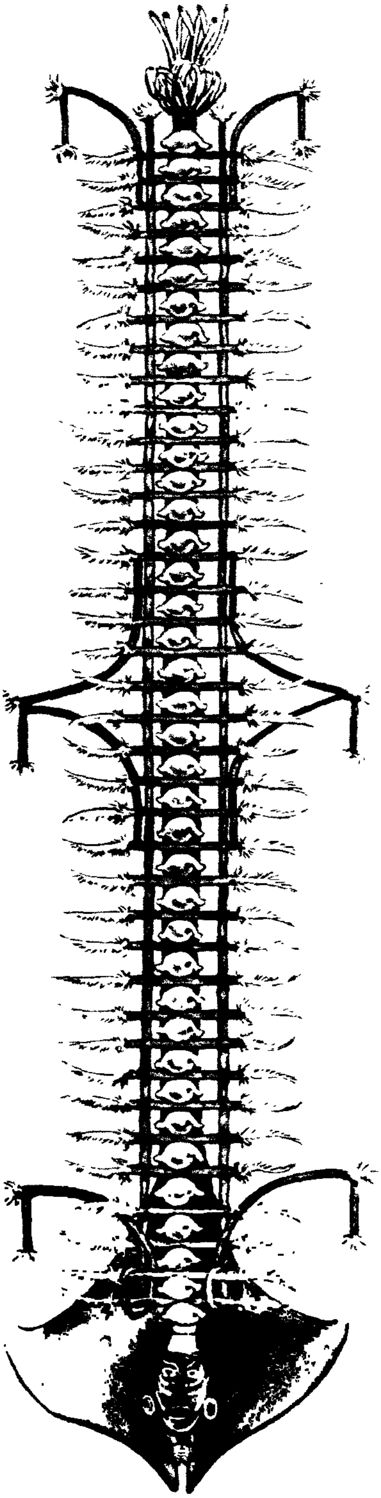
CANOES OF THE BRITISH SOLOMON ISLANDS.

HEAD-HUNTING CANOE FROM YSABEL.



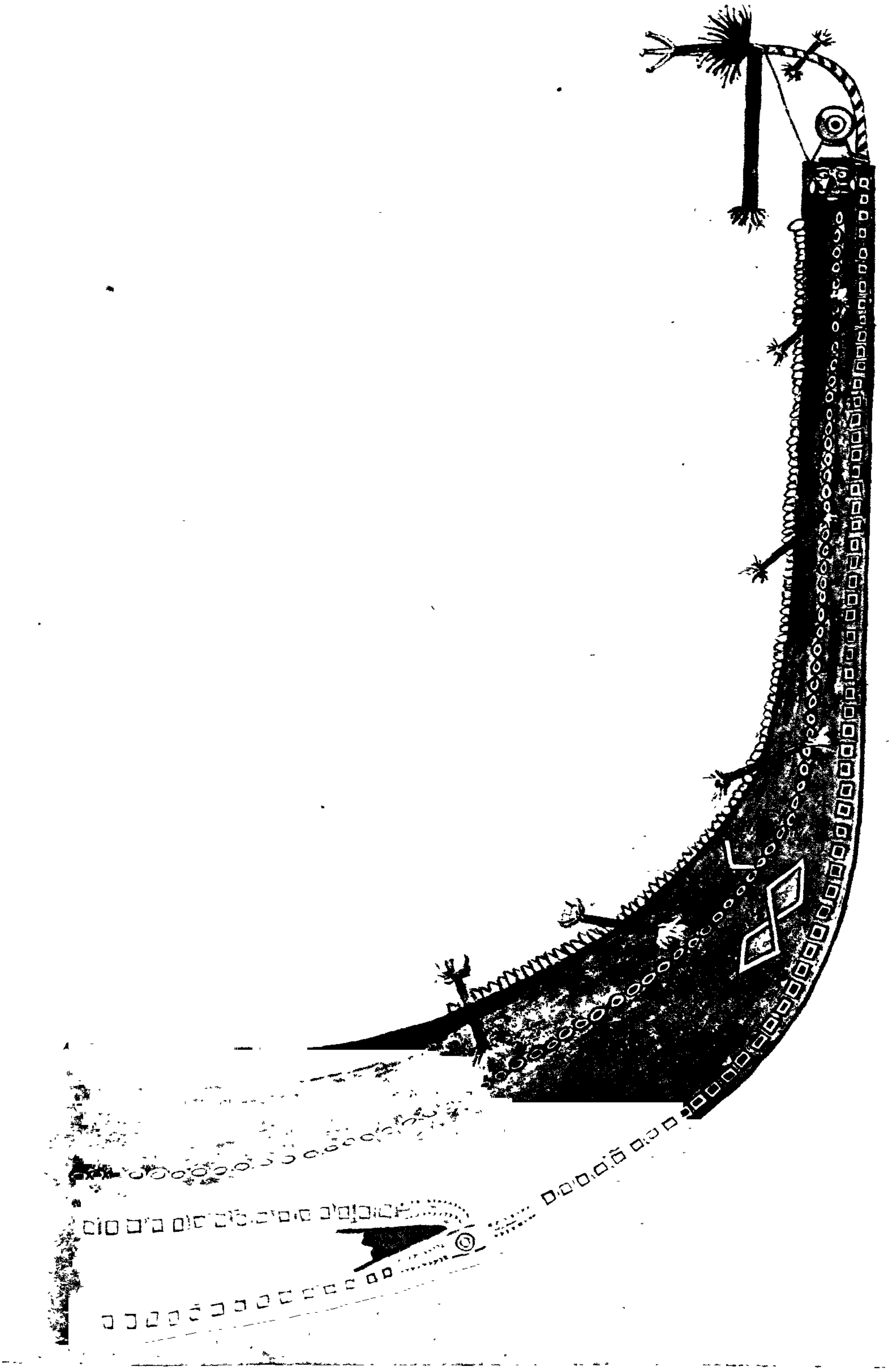
HEAD-HUNTING CANOE FROM YSABEL. DETAIL OF BOW.

CANOES OF THE BRITISH SOLOMON ISLANDS.



HEAD-HUNTING CANOE FROM YSABEL. DETAIL OF FRONT OF BOW.

CANOES OF THE BRITISH SOLOMON ISLANDS.



HEAD-HUNTING CANOE FROM YSABEL. DETAIL OF STERN.

CANOES OF THE BRITISH SOLOMON ISLANDS.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909. *Plate XLV.*

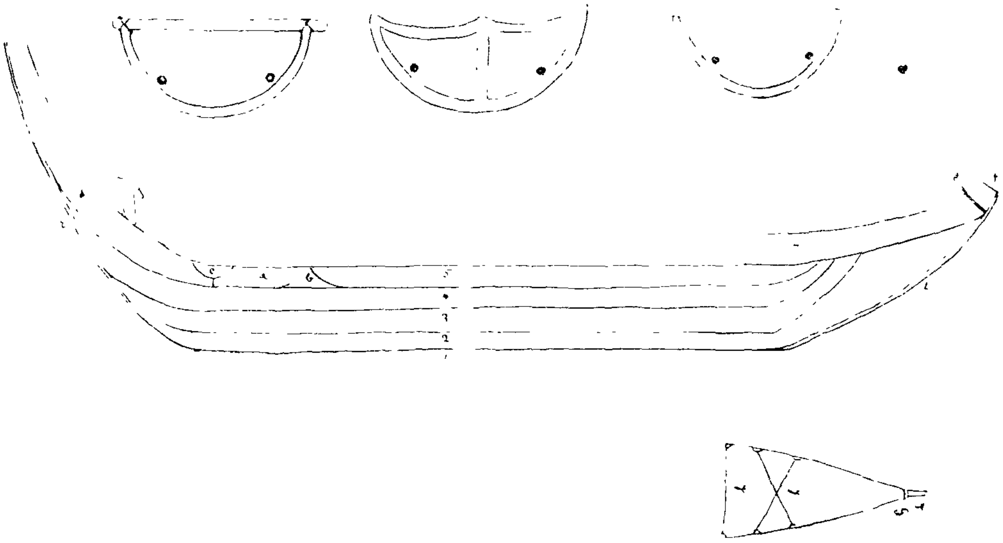


DIAGRAM OF YSABEL CANOE.

CANOE FROM YSABEL.

CANOES OF THE BRITISH SOLOMON ISLANDS.

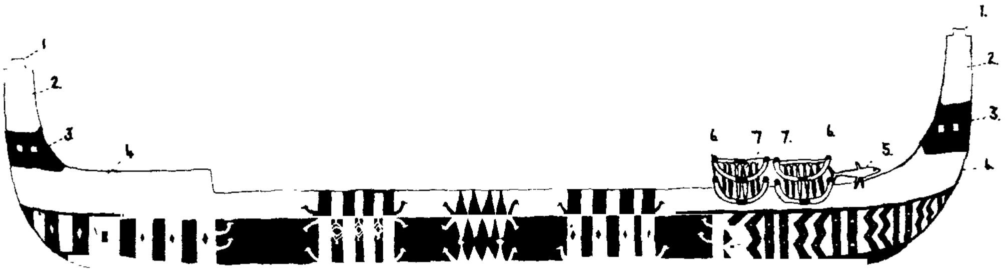
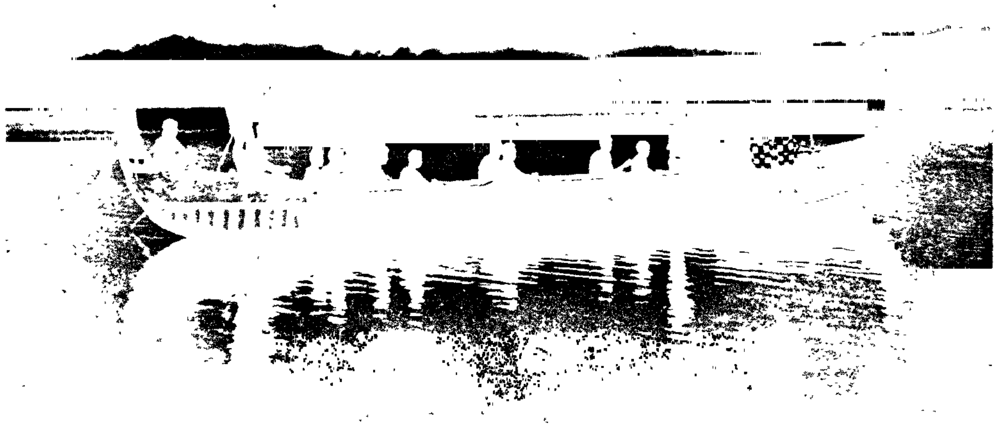


DIAGRAM OF MALAITA CANOE.



CANOE FROM MALAITA.

CANOES OF THE BRITISH SOLOMON ISLANDS.

SOME STONE CIRCLES IN IRELAND.

By A. L. Lewis.

It is well known that dolmens or cromlechs, great and small, are very numerous in Ireland, but little is heard of circles in that country; still there are some, and it is to be regretted that Mr. Borlase, when collecting and arranging the materials for his great book on *The Dolmens of Ireland*, in which he records 898 of them (p. 418), did not prepare a list of the circles which he found mentioned on the maps and in the books and manuscripts consulted by him. He does indeed mention a few examples "which, amongst others," came under his notice, and gives some illustrations, mostly from drawings by J. Windele; but, as he leaves out the largest and most noteworthy, about which nevertheless it is obvious from his book (p. 1011) he knew something, I am inclined to think that he may have intended to write another book about Irish antiquities, and may have reserved some of the information in his possession for that purpose.

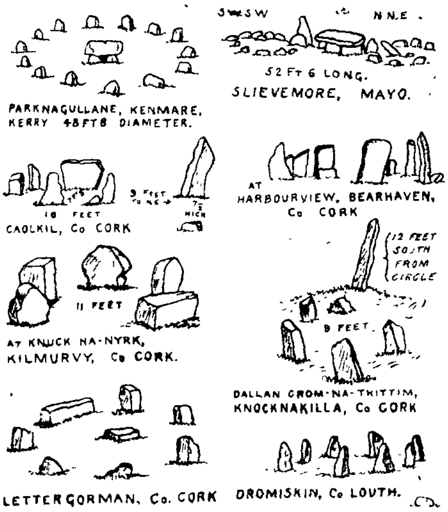

PARKNAGULLANE, KENMARE, KERRY 48 FT 8 DIAMETER.
S.S.W
N.N.E.
52 FT 6 LONG.
SLIEVEMORE, MAYO.
10 FEET
9 FEET TO N.E.
7½ HIGH
CAOLKIL, Co CORK
AT HARBOURVIEW, BEARHAVEN, Co CORK
11 FEET
AT KNUCK NA-NYRK, KILMURVY, Co CORK.
12 FEET SOUTH FROM CIRCLE
9 FEET
DALLAN CROM-NA-THITTIM, KNOCKNAKILLA, Co CORK
LETTERGORMAN, Co. CORK
DROMISKIN, Co LOUTH.

FIG. 1.—FROM BORLASE, *Dolmens of Ireland.*

The circles of which Borlase reproduces drawings are very small, and at first sight appear unimportant, but they are interesting, and even valuable, in helping to show the numerous varieties of circles that exist in different places. Although these are so small, the stones composing them are as large as many of those in the circles of Cornwall and Dartmoor; one circle, only 9 feet in diameter, has an outstanding stone 12 feet to the south; another, only 8 feet in diameter, has an outstanding stone 9 feet to the north-east: these stones seem to be too near the circles to be useful for astronomical observation, and the question arises whether they may not themselves have been objects of adoration. In another place we have two small circles in line, N.N.E. and S.S.W., with a dolmen between them. Two other circles have the central stone which the modern "Druids" regard as a necessity, but which does not seem to have existed at any time in the English circles; these are most likely to have been burial cists from which the covering mounds or cairns have been removed, but, if they should chance to be merely stone tables, and if similar things should be proved to exist in Wales, it must be borne in mind that the connection implied is not between England and Wales or England and Ireland, but between Wales and the south-west of Ireland.

The largest circles in Ireland, as I have already said, are not mentioned by Borlase; they were concentrated around Lough Gur, which is 10 or 12 miles south from Limerick and 9 miles north from Kilmallock railway station. Murray's Handbook of 1864 states that one hundred early remains and circles are known to have existed there within the memory of man, but it does not say much about them. Mr. Crofton Croker, who wrote—as he said from memory—a very good account of some of them in the *Gentleman's Magazine*, of 1833, said there were monuments all round Lough Gur, and even fifteen miles from it, connected with one another. The letters of the alphabet only just suffice to denote the circles and other stone remains marked on the 6-inch ordnance map (surveyed in 1840 and revised in 1900–1), and that without regard to forts and other constructions of earth and stone, but many of the things marked on the ordnance map, or described in the older accounts, are not now to be found.

Lough Gur is in 52·31 north latitude, and its present very irregular coastline is about three miles round; up to about 1839 it was nearly double that, but a large shallow area was then partly drained, and a rocky island in the middle converted into a peninsula; access to this island was formerly by two causeways, each guarded by a square tower and other fortifications, which again were hopelessly commanded by the island hill behind them. There are two smaller islands which are thought to be partly if not wholly artificial, on one of which there is also a mediæval tower, and on and round these, when the water was lowered, great quantities of bones of animals, and numerous stone and bronze weapons, etc., were found. The surface of the lake is from 240 to 250 feet above sea-level, but some of the seven hills close to its banks rise to more than 500 feet above sea-level, and give it a very picturesque appearance; each of them was crowned in prehistoric times by a fort, now destroyed, and those appear to have been connected by other works, so that it was a place of great strength, and probably of great sanctity, in prehistoric and also in mediæval times, for the country round is as full of remains of the latter as of the former. It was a great stronghold of the Desmonds up to the time of our Queen Elizabeth.

I will now proceed to describe the circles and other remains denoted on the plan by letters.

A. Rockbarton, the seat of Lord Fermoy, is a large demesne, nearly two miles long, and in it, about a mile off the edge of the map, was a circle, the stones of which seem to have been broken up to make a wall for a plantation which occupies its site. About 650 feet from this circle, in a line 18 degrees E. of N., according to the 1-inch ordnance map, there still remains a standing stone, 7 feet high, 5 feet broad at the base, and 1 foot thick. One mile in the opposite direction, 18 degrees W. of S., is a little hill-top, well-marked on the ordnance map, but now hidden from the site of the circle by trees, etc. This line is nearly the same as that through the circles at Stanton Drew to Hauteville's Quoit, and Sir Norman Lockyer tells me that having regard to the latitudes and to the estimated heights of the respective horizons this was the direction in which at this circle Capella rose in 1300 B.C. and Arcturus in 950 B.C., while at Stanton Drew[1] the date indicated by Arcturus was 1690 B.C. There are some scattered stones in another plantation in this park which may be the remains of some other monument.

B. Here are six small stones in line, 50 degrees W. of N., and E. of S., with three in another line at a right angle on the north-east side, and two or three more at the south end; these are incorrectly described on the 6-inch ordnance map as a stone circle. A circular cup-shaped hollow in the ground, either natural or artificial, is said to have existed south-west from these, but is not marked on the 6-inch map, and I did not see it.

C, D, E, F, form a group which I will describe fully presently.

G. A stone circle is marked here on the 6-inch map; there are in fact seven small shapeless masses of stone forming an irregular ring, 10 yards by 8 yards across, but they have a very natural appearance, and may have been under water in prehistoric times. Close to, but above them, are some earthworks, enclosing a space about 70 feet square, open to a low cliff, which was, I suppose, at one time the bank of the lake.

H. At this spot is a ring of low turf bank with small stones, about 24 yards in diameter, with what may be the remains of a tumulus inside it, all very imperfect and hardly visible on the side nearest to the lake, toward which the ground on which it stands slopes.

I. Here is a similar but better structure; a double ring of stones, some of which are 4 feet square by 1 foot thick. The two rings are about 6 feet apart and the space between them is more or less filled up with earth; the area inclosed by this wall of earth and stone is about 100 feet in diameter, and its surface is very irregular. Professor Harkness, F.R.S., who contributed a good description of some of the monuments round Lough Gur to the *Quarterly Journal of Science* of July, 1869, dug into this circle and found some human remains, mostly of children from six to eight years old, which included parts of a skull; so far as these remains enabled Professor Harkness to form any opinion he thought they belonged to "a broad-headed people, with small eyes and of short stature, approximating more nearly to the present Finns and Lapps than to any other race of men." Borlase (*Dolmens of Ireland*, p. 1011) says the fragments of this skull are in the museum at Queen's College, Cork, where he examined them.

K. This is the site of another small stone and earth circle of similar construction, which Professor Harkness found to be very imperfect forty years ago, and which I did not find at all. All these are described on the 6-inch ordnance map as "stone circles," but it will be seen that they are very different from what we in Great Britain understand by that term, and I see no reason to suppose that they were anything more than burial grounds. There appear to be some very like them in Strathspey, near Aviemore Junction, but each of the Scottish examples was surrounded by an open circle of pillar stones, of which there is no trace round those on Knockadoon in Lough Gur.

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[1] *Stonehenge*, p. 174.

L, M, N, O, P, form another special group which I will describe presently.

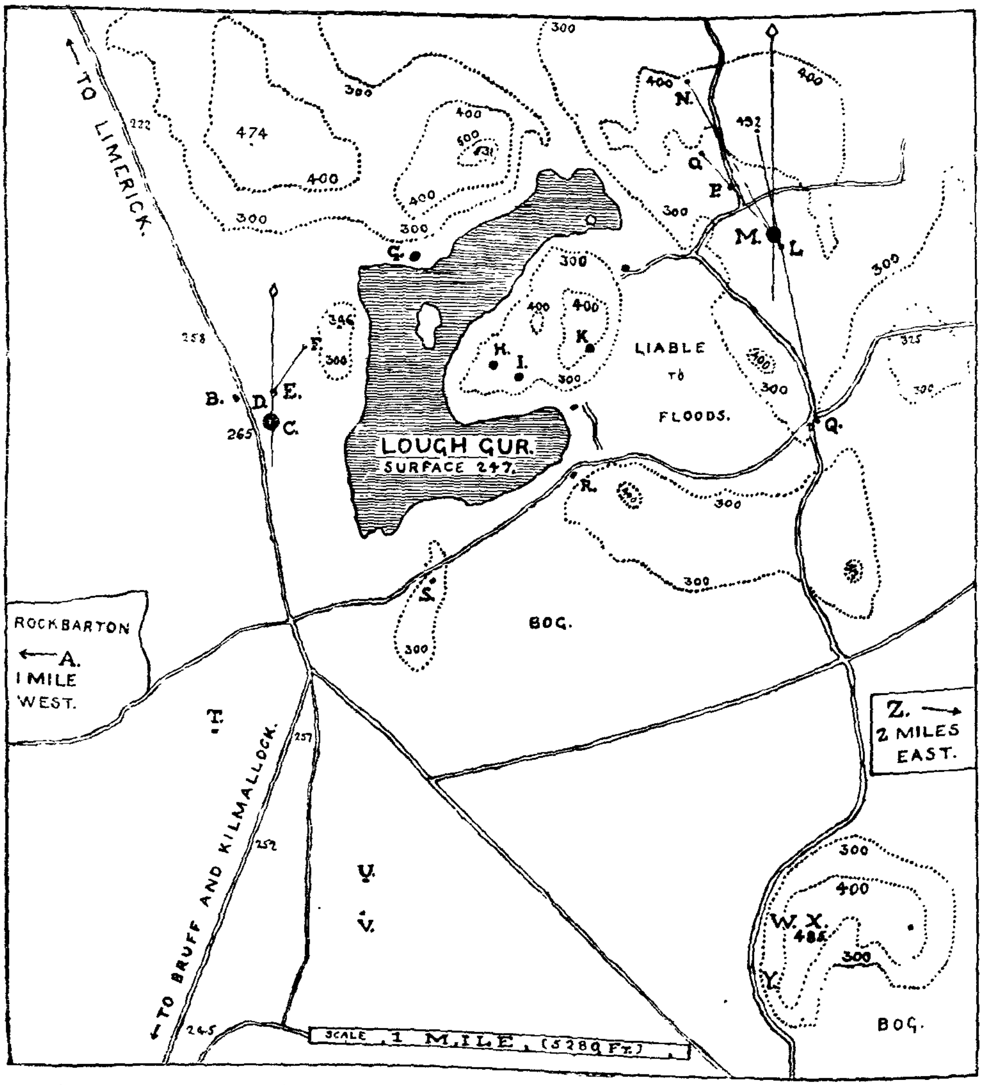

FIG 2.—MAP OF DISTRICT (TRACED FROM 6 IN. ORDNANCE MAP AND REDUCED BY PHOTOGRAPHY).

Q. At this point, called Lough Gur Cross, there are some cottages, and in the garden of one is a "leagaun," or standing stone, about 8 feet by 8 feet by 2 feet thick. A woman came out of the cottage and told me there was a crock of gold under the stone, which was guarded by a terrible ghost. In reply to a question she said she had never seen the ghost, but other people had, and, on my inquiring why they did not look for the gold in the daytime, she said it was no use, because it could only be found at night, and then the ghost was there to protect it.

R, S, T, U, and V are remains of "Giants' Graves," probably sepulchral chambers, with which I will deal fully presently.

W, X, Y. Stone circles are marked on the 6-inch ordnance map at these spots, but do not now exist. I walked along the road by the side of which they are supposed to stand, but could find nothing. I also inquired of cottagers on the way about them, and was told there were no such things there.

Z. At a place called Ballynamona, two miles east from this point, another circle is marked on the 6-inch ordnance map, but, as I was told it had been destroyed, I did not go to look for it. I do not know whether it may have been the circle near Inch St. Lawrence of which the Rev. P. Fitzgerald wrote in 1826:—"There is a stone circle near High Park, where a number of stones are to be seen, some lying in confusion, others in circles or direct lines; it is remarkable that they are all round, and one large stone detached from the rest stands erect which measures 9 feet in height, nearly the same in breadth, and is 4 feet thick on one side." Some remains are also marked on the 6-inch O.M. and spoken of by Crofton Croker on the south edge of the lake. Those I did not see and do not know whether they were really remains of circles or of doubtful origin and purpose like those at G on the north side.

We have now to return to the "Giants' Graves," R, S, T, U, and V, and to the two great groups of circles and stones, L, M, N, O, P, on the north-east side, and B, C, D, E, F, on the west side of Lough Gur, and I will ask you to observe that the outlying stones of the circles on the east side of the lake are to the north-west, and that those of the circles on the west side are to the north-east.

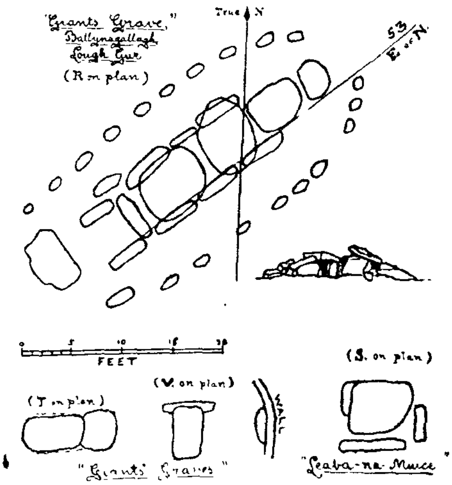

FIG. 3.—PLAN OF "GIANT'S GRAVES."

Of the "Giants' Graves" that marked R on the map is the largest and best preserved; its total length is about 35 feet, in a line 53 degrees E. of N., and W. of S.; its central feature is a chamber about 14 feet long, 5 feet wide, and 3 feet high, the capstones of which seem to have been shifted, though two still remain on the upright stones which supported them; there is probably another smaller chamber at the north-east end, and, at the south-west end, there was either another chamber or a small open shrine, such as appears in an almost identical structure in Antrim, described by Dr. Sinclair Holden in *Anthropologia.* In both cases several small stones surround the chamber, extending the width of the whole monument, in this case to about 15 feet. A description of this "Giants' Grave," from the Ordnance Survey Letters, is given by Borlase, who thought it had been destroyed, and he also gives a copy of a sketch made by Miss Margaret Stokes "between the date of the survey and its destruction"; this however very fairly represents its present condition, the alleged destruction not having taken place. Murray's Handbook, 1864, says that a chamber covered over with large flags was destroyed by treasure seekers after the death of an old woman who used to dwell in it, but it is not clear whether that refers to this or to some other monument formerly existing nearer the lake.

The "Giant's Grave" marked T on the map consists of two stones, each 1 foot thick, one 6 feet by 3, and the other, 4 feet square, lying on the ground level, and apparently resting on one or more underneath, but so closely that I could not see what was below.

Of that marked V on the map only three stones are left, one, 5 feet long and 2 high, probably in its original position; another, 5 feet by 3, one end of which rests on the upright stone and the other on the ground, and a third stone built into a wall, 5 or 6 feet away from the others.

The monument marked U on the map is enclosed in private grounds, and, as I was told that there is no more left of it than of that marked V, I did not go to see it. It was of one of these two that the Rev. F. Fitzgerald wrote in 1826, that it had "lately been broken down by a farmer, who had two of the stones taken to make pillars for his gateway."

The dolmen marked S on the map is also described by Borlase from the Ordnance Survey Letters; it consists at present of two upright stones in position, and a third fallen, with the capstone which they supported lying upon it, inside the chamber it originally covered, and which is about 6 feet by 3 or 4, and 3 feet high; whether it were ever any larger cannot now be ascertained. I have found no record of other stones forming any extension of it. This little monument is situated on the north end of Bally-na-gallagh hill, overlooking the south end of Lough Gur, and is called Leaba-na-Muice, which, I am told, means the bed of the pig or pigsty, a use to which this little dolmen may very likely have been put at some time or other. Mr. Lynch, however, strongly objects to any such suggestion, and says that pigs were offered as sacrifices, and that priests were on that account called pigs by the Phœnicians and others, and that the name in the case before us really means "the bed in which the Druid sleeps." The Rev. F. Fitzgerald writing in 1826, said that a few years previously a stone coffin and a human skeleton were found near this dolmen; they may however have been found in the graveyard of the old nunnery, a quarter of a mile south from it. Borlase mentions but does not give plans of any of these structures, and does not appear to have visited this part of Ireland himself.

Of the group on the north-east side of Lough Gur, L represents a circular wall 33 to 34 feet in diameter, of small stones, Lynch says 28 in number, standing 3 feet high; the space inside them is filled up with earth nearly to their tops, and forms in fact a round raised platform: 75 feet from it are two concentric circular walls, 184 and 155 feet in diameter respectively, formed of stones 5 or 6 feet high; the space between these walls (nearly 14 feet) is also filled with earth to a height of 5 feet, so that they form really one round wall, 14 feet thick and 5 feet high. In the middle of this enclosure (marked M on the map) is another circular wall of upright stones of similar height, enclosing a space about 48 feet in diameter ; this wall also had an earthen bank with perhaps an outer stone facing on the outside of it, for some of the bank still remains on the east side, the rest having, I suspect, been used in making the fence which runs through the circles. This fence I was told was constructed " when the bad times came," it being thought desirable to divide what was then one farm between two brothers. Mr. Crofton Croker (writing as he said from memory) in 1833, said there were several concentric circles here, and there are some small stones on the east side of the inner circle which look like part of another, but the ground slopes down there, and I think they were only placed there to make a step or terrace, and were never part of a complete circle. A line drawn from the centre of L through that of M and its inner circle, in a direction 29 to 30 degrees W. of N., arrives at a stone (marked N on the map), 8 feet high, which stands on the top of a ridge 2,500 feet away; this stone is now hidden by trees and buildings, but for which it would certainly be visible on the sky-line (2 degrees high) from the circles. Two other standing stones (marked O and P on the plan) are shown on the 6-inch ordnance map in another line, 41 degrees west of north, from the centre of circle M, and 860 and 1,450 feet away from it respectively; the nearest is now only 4 feet 3 inches high, but looks as though it had been broken down ; it stands on a bank above the side of the road. I did not go to the other, which Croker, in 1833, said was 9 feet 4 inches high, 6 feet 9 inches wide, and 13 inches thick, but I think I was told it had been thrown down. Ten degrees W. of N. from circle L is the highest point round about, and in the same line, 10 degrees E. of S. is the stone marked Q on the map, where the ghost is said to guard the gold; it is 2,480 feet away—within 1 per cent. of the same distance as the stone N to the north-west. None of these stones can now be seen from the circles, because of modern obstructions, but I believe all were visible originally; the fact of their forming lines with the circles has not, I think, been mentioned by any previous writer, although it is clearly shown on the 6-inch ordnance map. Not one stone of this whole group is to be found, however, on the 1-inch map, and Mr. Borlase seems to have thought that it was a dolmen surrounded by a stone setting.

Before going further, I should like to draw attention to the very striking resemblance in principle, though not in detail, of the plans of these circles in Ireland, and those of Stanton Drew in Somersetshire. In both we have a line, from the centre of a smaller circle through that of a larger one, to a single stone at a considerable distance in a northerly direction; and a second line from the middle of the larger circle in another direction. At Stanton Drew these lines point to the east of north, and in these Carrigalla circles they point to the west of north, but I shall presently deal with some circles on the other side of Lough Gur, which are planned in a very similar manner, and in which the lines point, as at Stanton Drew, to the east of north.

Respecting the Carrigalla circles Captain Boyle Somerville, R.N., writes to me: "The alignment of N. 29, 30 W. with an altitude of 2° produces a declination of 33° 35′ N., namely, for Capella in 1600 B.C., or Arcturus 500 B.C. (of course, setting). The alignment of N. 41 W. at an altitude of 2° produces a declination of 28° 52′ N. and is for Capella 2500 B.C., Castor 2000 B.C., or, what I believe to be the real object, as I have got declinations in several places of about the same amount, which do not fit with the above early date, the MOON! The moon changes her tropic declination gradually from about 28½° N. and S. to about 18½° N. and S.; it takes 18·6 years to get from 28½ back again to 28½ (the Metonic Cycle) and I believe the alignment in question was intended to mark the ends of each such cycle." (At Stanton Drew the Metonic Cycle number 19 appears to be embodied in the proportional measurements. See *Journ. Anthrop. Inst.*, 1897, p. 199.)

In single instances, such as the "Friar's Heel" at Stonehenge, it has been asserted that the outlying stone had no connection with the adjoining circle, but when we find so many cases so much resembling each other, it can no longer be contended that all these things had no meaning, but were purely accidental. There must have been a connection and an intention of some kind, and the similarity of the system indicates that that connection and intention were the same in principle, though the differences in detail show that the particular objects in view were not exactly the same in all cases. It is, however, important to discover if we can whether the influence under which these stones were arranged in this manner passed from Ireland into Great Britain or from Great Britain into Ireland.

We come now to the last remains which I have to describe—those on the west side of Lough Gur, marked C, D, E, F on the map. At E is a circle 55 feet in diameter, composed of fifteen large irregular masses of stone, with a space for another, or for an entrance, which, I think, from its position, is more likely; the dimensions of the stones vary from 3 to 7 feet, and they do not for the most part look as though they had ever stood in a more erect manner than they do now, though it is said by Croker that they did. Looking to 35 degrees E. of N., according to the 6-inch ordnance map, we see a stone 10 feet high, 7 feet wide, and 2¾ thick, 740 feet away, and we seem also to have here a group of three hills such as I have often noticed in other places. A prolongation of this line to the south-west, through the entrance to this circle, would probably have struck the centre of a circle destroyed in or about 1830, which is variously described as having been 50 yards, or 160, or 170 feet in diameter—perhaps it was 165 feet, or three times the diameter of circle E. It is said to have possessed 72 stones in 1826, but only 60 in 1828, and of these all but six were destroyed in 1830; if any of those six are left now, they are probably built into some of the stone fences, for I did not see them; the stones of this circle are said to have been about 3 feet high, some close together, and others wide apart, which seems to suggest that originally there may have been many more filling up the gaps. As this circle is entirely destroyed I cannot say positively that its centre was strictly in line with that of circle E and the outstanding stone F, but, having regard to the distances at which it is stated by various authors to have stood from circles E and C, I think it must have been so, and in that case we have this line through the centres of two circles D, E, to the outstanding stone F, and to a prominent hill-top beyond it, in a line 35 degrees E. of N. Neither the destroyed circle D, nor the still existing circle E, is known to have had any bank of earth about it, but Beaufort, writing in 1828, speaks of an irregular conical stone, 4 feet high, 20 feet S.E. from the destroyed circle, and of another fallen stone 45 feet due east from the stone just mentioned; this is most likely the one spoken of by Crofton Croker in 1833 as a large flat stone, 7½ feet by 4½ by 6 feet high, supposed to have been an altar. Croker also mentions a stone, 5 feet high by 6½ by 4, 160 yards north-east from circle E and another (that which still remains) 11 feet 9 inches high, 100 yards further in the same direction; but here again it is uncertain whether this stone were in the line E F, or whether it were in a different direction from the centre of E, like the stones marked O and P at the Carrigalla circles. The line 35 degrees E. of N. is, however, still existing as between E and F, and is the same as that of the "Kingstone" from the Roll-rich circle in Oxfordshire, and of some prominent hills from other British circles. Sir Norman Lockyer informs me that, estimating the height of the horizon at three degrees, this line, in the latitude of Lough Gur, would have struck the rising points of Capella in 1750 B.C., and of Arcturus in 500 B.C.

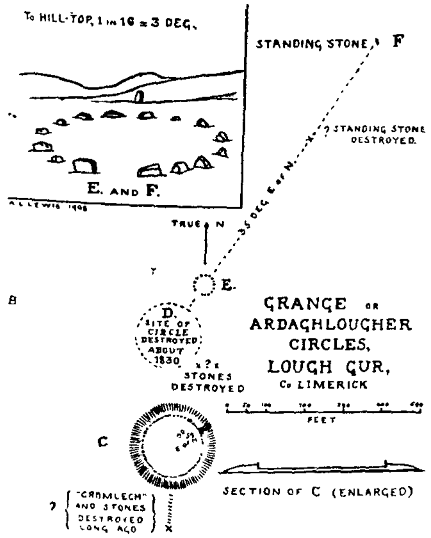
To HILL-TOP, 1 in 16 = 3 DEG.
STANDING STONE F
E. AND F.
A. L. LEWIS 1908
? STANDING STONE DESTROYED.
35 DEG E of N.
TRUE N
E.
D.
SITE OF CIRCLE DESTROYED ABOUT 1830
x ? x STONES DESTROYED
GRANGE OR ARDAGHLOUGHER CIRCLES, LOUGH GUR, Co LIMERICK
FEET
C
SECTION OF C (ENLARGED)
? "CROMLECH" AND STONES DESTROYED LONG AGO
X

FIG. 4.—PLAN OF GRANGE CIRCLES, ETC.

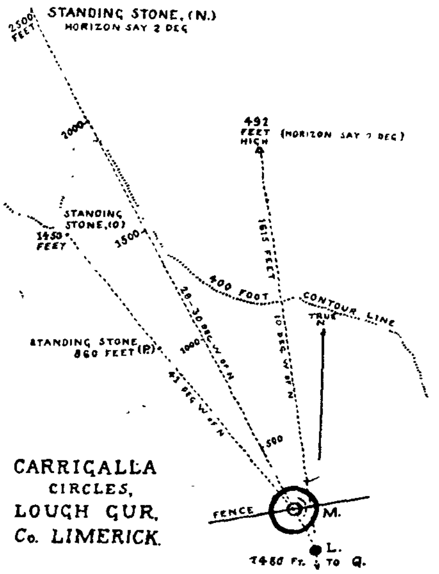

FIG. 5.—PLAN OF CARRIGALLA CIRCLES, ETC.

Lastly, we come to the consideration of the circle marked C on the plan, which has for various reasons attracted more attention than any of the others. In its present restored condition it is a circular space, 150 to 155 feet in diameter, fenced in by a perfect wall, about 5 feet high, of large stones, several of which are 6 feet or more in height, the largest being 9 feet high, 6¾ wide, and 3 thick; before the restoration the ground here seems to have been lower and this stone consequently higher above it; this stone stands 30 degrees E. of N. from the centre of the circle, the line in which Sir Norman Lockyer says Capella rose in 1950 B.C., and Arcturus in 250 B.C. A bank of earth 30 feet wide surrounds the stone wall, which forms an inner facing to it; on the outer side the bank slopes to the ground level, which is 7 feet below its summit, the inside being 2 or 3 feet higher than the ground outside. There is but one entrance—a passage, 3 feet wide, lined with stones on each side, those at the inner end being 6½ or 7 feet high; this entrance is 59 degrees E. of N. from the centre of the circle, a direction which Sir Norman Lockyer connects with the rising of the sun in May. There are now about 125 stones in the wall, and 12 in the entrance passage. Beaufort in 1828 described this circle as possessing only 43 stones, some of them very small, surrounded by a mound about 15 feet broad and about 4 feet high, which skirted along the outside edge of the stones, enclosing the area within them as a pit of 3 or 4 feet deep. Crofton Croker in 1833 called it a sloping bank, 12 feet wide, and 6 feet high. These apparent discrepancies are explained by the fact that the circle was restored, some time in "the sixties," by Messrs. John and Edward Fitzgerald, who occupied the land on which it stands, and by their landlord, the Count de Salis. Mr. Edward Fitzgerald, however, told Mr. Lynch that only a few new stones were put in at the restoration, all the others now on the ground belonged to the circle, but were covered by earth from the surrounding rath or bank. It is said that formerly there was a cromlech 100 feet due south from this circle, the tops of the stones of which approached one another, and that a row of flagstones led like stepping-stones from it to the circle, but all these have long been destroyed.

Before this restoration took place the appearance of the then sloping bank and the half ruined and half buried wall of stones would, I suppose, have been very like that of the mysterious structure on Bodmin Moor called "Arthur's Hall"; and if the restoration of the Irish circle be correct it seems likely that while the Grange circle certainly was as "Arthur's Hall" is, "Arthur's Hall" probably was originally as the Grange circle now is, the chief difference between them being that one is round and the other oblong. Both are in the midst of a number of circles from which they very much differ in construction, and with the general scheme of which they do not appear to have any connection, and it has occurred to me that they may have been used for a very different purpose. The Grange circle as restored would be useless as a fortification, the rampart being much easier to ascend from the outside than from the inside, and the single narrow entrance would be very inconvenient for most purposes. Lynch says that Lough Gur was the centre of one of the hunting districts of the ancient Irish, and vast quantities of bones of *bos longifrons*, pigs, goats, stags and dogs, were found when the surface of the lake was lowered; and I would suggest that in prehistoric times there may have been great tribal game drives, in which (as formerly in Australia) a large tract of country would have been surrounded by an ever-narrowing ring of men, women, and children, shouting and howling, and driving all the wild animals before them over the rampart wall into the pound where—the narrow entrance having been closed—they could be kept and killed as they were wanted. Against this it may be said that the cromlech at the south and the orientation of the entrance suggest some religious purpose for the circle, but it is not unlikely that the festive game drive might have been preceded and followed by some rites or ceremonies. It may also be asked why should the inside of the pound have been raised above the natural surface, but that question may be asked in any case, and it may be that some of the raising and levelling is due to the restoration. I do not, however, say that this circle was a game-trap or pound, but merely that it may have been, and that it would have been a very convenient means of providing a continuous supply of animals for sacrifices and food.

In the absence of exact measurements and plans, I cannot say much about proportionate distances, but I may point out that the inside diameters of circles C and M are apparently about equal, and that the distances of stones N and Q from circle L are also the same within the allowance of 1 per cent. for errors of workmanship, which Professor Flinders Petrie has found in British earthworks. The distance also between circles L and M is about two diameters of L, and the distance between the centres of L and M is about five diameters of L.

Having now finished my description of the various remains around Lough Gur, I wish, before making some general observations on circles and their surroundings, to acknowledge my indebtedness for information and assistance in my investigations in Ireland to the late Mr. William Lundon, M.P., to Mrs. Fitzgerald, with respect to the Grange circles, and to Mr. O'Donnell, regarding the Carrigalla circles.

There are some things to unlearn as well as to learn respecting stone circles, and at the present time the most important of these seems to be the idea that they are all alike and all intended for the same purpose; this idea has been fostered by four or five generations of antiquaries and travellers, who, whenever a fresh circle has come to light in any part of the world, have dwelt on its resemblances to others and ignored its differences from them. As we have seen, even in eight square miles in Ireland, there are three or four quite different types of circles, and I must remind you that these differ not only from each other, but from circles in England and Wales, and also from those in Scotland, some of which indeed differ from all others.

Since the circles vary so much in construction, it is surely not unreasonable to suppose that their objects may have varied also, yet Mr. Rice Holmes in his book on *Ancient Britain and the Invasion of Julius Cæsar* (note on p. 211), complains that Mr. A. L. Lewis "seems to be satisfied with almost any kind of orientation; thus he tells us that of 21 circles which he observed in Southern Britain, 19 had a special reference to the north-east, that is to the midsummer sunrise, but he maintains that a line due east through the Stannon and Fernacre circles to Brown Willy, evidently was meant to indicate the equinoctial sunrise; and in another case he insists that the object pointed at was the pole-star." In view of what I have been able to show in this paper, and of the fact that what I have stated now is only a small addition to what I have shown here and elsewhere at intervals during many past years, I submit that it is not unreasonable to suppose that the sun did receive astronomical observation, or religious observance, or both, at various periods of the year in some of the circles, and that other circles, or even the same ones, may have been adapted and used for observation or observance of some star or stars. As to the pole-star, we know that it has been, and perhaps is still, regarded with veneration by some people, who even look upon it as the abode of their dead friends.

Another consequence of the great differences I have been pointing out is that it is not safe to conclude that, because some particular thing is not to be found in connection with some circle or circles, it does not exist in others, or that if or because it exists in some it should necessarily do so in all.

Mr. F. R. Coles supplies us with an instance of this kind of reasoning in the *Proceedings of the Society of Antiquaries of Scotland* (April 9, 1906, vol. xl) where, in describing a very small sepulchral circle in the island of Arran, he says, "It may be mentioned that the friends who assisted me in measuring this circle, were as keen as possible on the theories started by Mr. Lewis as to the relationship between the circle sites and any prominent hills; the opportunity of testing this was too good to lose, and I therefore noted that at a point south by compass, 64 feet distant, there stood a huge rough block of quartzitic conglomerate; if this same line were continued (also by compass) northwards we found it struck the summit of Goat Fell; again a line bisecting the centres of two stones of the circle strikes direct to Ben Nuish, a very fine peak about six miles distant; but surely the fact that these measurements and observations were by *compass*, and not by the true north, ought to invalidate them from any sort of confirmation of the theories suggested." It happened that I visited this little circle in 1899, and described it in my paper on the "Stone Circles of Scotland" read here in 1900; it is a purely sepulchral circle, only 21 feet in diameter, in which I should not expect to find any reference to sun or stars, and which in my paper I carefully differentiated from the great monuments of Brogar and Callernish where such references do exist, and I did not refer to Goat Fell, although I noticed its direction myself when I was there; since it is in a line with the outstanding stone it is indeed quite likely that the latter was purposely so placed as to be in that line; it is just seven radii of the circle from its centre, and excavations made by the side of it have not revealed remains of any kind. On the question of compass bearings Mr. Coles is in company with no less a person than Dr. Stukeley, who, in his own days, noticed the frequency with which the direction of the rude stone monuments coincided with the variation of the compass; the explanation of this, so far as points near the pole are concerned, has been given to us by Sir Norman Lockyer; it was not to the pole-star that such monuments referred, but to the rising or setting of some circumpolar star or constellation.

The evidence as to the sight lines from circles, formed by stones, other circles, and hills, is not my statement about them, but that of the ordnance maps, or of some equally competent surveys, made by men who frequently do not agree with my interpretation of the facts; photographic evidence is also sometimes to be had, and I have in most cases verified the maps and plans by personal observation. The facts cannot indeed be disproved, but the conclusions to be drawn from them may of course vary. It is for each one to decide for himself whether they are all mere accidental coincidences, as some think, against, as it seems to me, very heavy odds, or whether they were intentional, and if they were intentional what was their object, for if they were intentional there must have been an object; and, if there were, I do not know of any but sun or star observance that has been or can be suggested.

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NATIVE WITCHCRAFT AND SUPERSTITION IN SOUTH AFRICA.

"A man cannot live without charms."—BECHUANA PROVERB.

Compiled by H. W. GARBUTT, Secretary, Rhodesia Scientific Association.

[WITH PLATES XLVII AND XLVIII.]

ALTHOUGH to the civilized mind an account of native witchcraft may be read with feelings of amusement, I think that we should remember that to the people concerned it is a very serious subject, and one that has, to our knowledge, for over 300 years had a very great influence on them.

The ordinary individual is unable to gain much information regarding these superstitious practices, and I am indebted for all my knowledge to friends in various parts of South Africa and North Western Rhodesia. Most of the notes are made up of details taken from the contributions of several correspondents. It has, therefore, not been possible to put the author's name to each statement, but their names are added at the end of the paper. I would, however, take this pportunity to thank the Rev. D. Carnegie for his notes and assistance, Father O'Neil for the description of the *i'shumba* dance, etc., and His Honour the Administrator and the Native Affairs Department of North West Rhodesia for the information from that Province.

Mr. H. J. Taylor (Chief Native Commissioner of Matabeleland) said before the Rhodesia Scientific Association in July, 1906: "The natives . . . are to a certain extent firm believers in witchcraft."

Although the profession of witchdoctor is prohibited by law and there is a heavy penalty on conviction, no native, even an educated one, would dare to betray a bone thrower, and it is difficult to get them to give evidence in court against one, for fear of being bewitched or poisoned.

Great care is taken not to be seen when casting the bones, and all such practices are to-day carried out in secret. Natives now do it on the veld, or in the grain fields and at night, instead of, as previously, during the daytime in the middle of a kraal full of people. I might mention, however, that there is no law in Basutoland against these customs.

The following five extracts will give some idea of the widespread and strong influence witchcraft has over natives in South Africa :—

The Rev. D. Carnegie (for over twenty-six years a missionary in Rhodesia), in his paper on "Lobengula and His People," read before the Rhodesia Scientific Association in July, 1906, said, "Witchcraft was mixed and intermingled in every part of Lobengula's policy. . . . If there was one thing that led to such crimes" (the murder of Lobengula's sister[1] and seven brothers) "and cruelties it was the influence of the witchdoctor. . . . The people were led by the nose, deceived, robbed, burned to death, disinherited, driven out of the land, thrown to the crocodiles, murdered and treated in all shameful ways by the witchdoctors."

"The curriculum vitæ of the heathen Mowenda is a long succession of fear, superstition, suppression and misery. From birth to death they are haunted by their gods, by the ghosts of their ancestors, by all sorts of hobgoblins, and tremble from fear of their witchdoctors and chiefs." (*The Bawenda,* by B. Gottschling.)

One of the greatest curses of native life, perhaps the greatest obstacle to the enlightenment and true progress of the Thonga is the little basket of *divinatory bones.*

"The constant use of the divinatory bones, the dreadful superstition of witchcraft are some of the agents which lower the morals of the natives." (*The Ba-Thonga of the Transvaal,* by Rev. H. A. Junod.)

"The Batlapin, in common with all other native tribes in South Africa, had a firm belief that all deaths except those occasioned by violence and old age were caused by enchantments and sorcery." (*The Native Races of South Africa,* by G. W. Stow.)

"Sorcerers, or rain-makers, are the principal barrier the Missionary has to contend with in the interior of South Africa." (*Missionary Labours and Scenes in South Africa,* by Rev. R. Moffat.)

Divining bones are the principal instrument of the witchdoctor and are found amongst most Central and South African tribes. Before coming to this country (Rhodesia) the Amandebele appear to have used the knuckle bones of goats, stones and seeds of the *maqandabopole* tree for divining purposes, and it was from the various Makalanga tribes, whom they conquered and enslaved, that they took what we will call the four major bones and various other superstitions. They still continue to use the minor bones (knuckle bones, seeds, etc.), sometimes in conjunction with the four major bones and sometimes without.

On the other hand the Makalanga had no such thing as witchdoctors among them before the arrival of the Amandebele—they only used the bones to find out the cause of a sickness and the whereabouts of game, lost stock, etc.

The subject of charms worn by most natives round their necks, generally a small bag containing medicine to charm away lions, crocodiles, snakes, etc., and to render their attacks harmless, and for many other purposes, is outside the scope of this paper.

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[1] His sister Mnceñence or Mncenguence, put to death in 1881, mentioned by F. C. Selous, in *A Hunter's Wanderings in Africa,* and by Oates. Mr. W. E. Thomas considers that Lobengula was forced to kill her owing to her assumption of royal power, and her defiance of him and his orders—there was no question of bones in the matter.

I have also omitted any account of "Medical Doctors," as their profession cannot be said to come under the heading of Witchcraft or Superstition. Occasionally, one of these medicine-men may combine the profession of rain-maker and witchdoctor. As a rule, however, their work consists in digging up roots in the veld, making medicines out of them and giving them in doses to people to drink. If they employ bones they consult them only to pretend to learn what herb or root has to be given to the patient. They, of course, know what medicine they are going to give, but the performance is carried out to give the patient a due sense of the doctor's importance. To those interested in this branch of the subject I would recommend the following two books: *A Contribution to South African Materia Medica*, by Andrew Smith, M.A.; *Bantu Folk Lore* (*Medical and General*), by Dr. M. L. Hewat, M.D.; and there is also much interesting information in Livingstone's *Missionary Travels in South Africa*, 1st edition, 1857, pages 127, 171, 423, 504 and 647.

There are also various superstitions which are neither practised by any particular class of doctors nor do they come under any particular heading, such as putting a stone between the branch and stem of a tree to ensure reaching one's destination before sundown; also the custom 2,000 miles north:—"On coming from Zebir I had noticed that natives had placed round stones in the forks of trees. This was done by native travellers, as a prayer to the sun, in order to obtain sufficient daylight so as to arrive where water could be found before night came" (the Yango tribe in *Across Wildest Africa*, by A. Henry Savage Landor), tying the long grass into knots when travelling, in the belief that it would ensure getting beer and food at the kraal in front,[1] or, on the Zambesi, as a sign of mourning; the heaps of stones at the side of a path to which heap every passer-by contributes, etc.[2] The making of these heaps of stones was supposed to have originated in a rape having been committed on that spot, and every one passing would pick up a stone, spit on it, and throw it on the heap, or if a young woman jilted a man he would start a heap, spitting on the stones, believing that all passers-by spitting on stones and throwing them on the heap would cause her to want lovers and to be jilted.

For the purpose of this paper I propose to divide the remainder of the subject into the following categories:—

1. Witches.—Those who bewitch (*loya*).
2. Witchdoctors (*Izanusi*[3] and *Izangoma*)—Who "smelt out" the supposed witches who caused the sickness or death of man and beast (diviner of secrets, as Hewat calls them).

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[1] "A traveller when starting on a journey ties a knot in some grass by the wayside, as he believes that by so doing he will prevent the people he is going to visit from having their meal until he arrives, or at any rate, he will ensure there being sufficient food left over for him." From *The Nandi*, by A. C. Hollis.

[2] "Close to Boulogne one passes a crucifix at the foot of which lies a heap of mouldering crosses, each made of two bits of lath tied together, deposited by passers by in the hope of Divine favour to be so gained." From *The Study of Sociology*, by Herbert Spencer; see also pp. 65 and 66 in *The Religious System of the Zulu*, by Callaway.

[3] "Etymology of the word unknown." From *The Religious System of the Zulu*, by Callaway.

3. Witchdoctors—*umHlahlo* (in Zulu *inGoboko*), equivalent to *Izanusi* and *Izangoma*.
4. Witchdoctors.—Who detected witches by striking the ground violently and repeatedly with the sharp end of a koodoo's horn (*Upondo lwebalabala*—the horn of a koodoo).
5. Bone throwers (*aba-tshaiyama-tambo*), who find out the cause and cure of sickness amongst men, children, and cattle, and of blight, etc., in the crops.
6. Rain doctors (callers for rain), (*Inyanga ze zulu*) and (*Amankazana ze zulu* and *izibizana ze zulu*), girls sent out by the older people to dance and sing when a drought threatens to destroy the crops.
7. Grave doctors (*upulamoto*),[1] who perform incantations over the grave of a dead person to cause the death of the supposed murderer.
8. Necromancers and sorcerers.
9. Sacrifices (*ugutetela*) to ancestral spirits (*amadlozi*).
10. Doctresses and dancers to the spirits (*izishumba*), who wander in the air and, in Mashonaland (*shabi*), a dance to the spirits of departed strangers.
11. *Mandoro.*

1. In Matabeleland the wizards or witches (*abaloyayo*) believed that they had the power to bewitch a person and thus cause his death. They go to the graves of the dead to pray for power to bewitch others, and believe that they get it, and that by means of medicines (roots, etc.) they can influence a person so that he dies.

When a native wished to learn to bewitch he would pay a big price to an established wizard, who would go with him to a grave and dig up a freshly buried body, cut it open and roast the liver, and teach him witchcraft.

"Their crimes are said to prevent rain falling at a certain place; the garden from yielding food; the herds, flocks, and women from being fruitful; and to cause the live stock and human beings to sicken and often to die. These ends are attempted or effected by various means. The rain is kept away by stones or bones placed upon trees in sight of the clouds. Human life is destroyed by secretly mixing poison with the porridge eaten, or beer drunk, by the person whose life is sought. Sickness is said to be brought into the family, fold, or cattle pen by certain *umuti* (poison) strewed or hid in the huts, folds, pens, or in the enclosures which surround the houses; in the paths leading to the fountain, river, or garden, or under the tree where the individuals work during the day. The poison is obtained from poisonous plants found in the land. The most dangerous and dreaded means which the *umtagati* employs to accomplish his wicked design is said to be the small dark-coloured wolf found in the land. This wolf, they say, is sent on errands of the vilest character, and is often ridden about by his master during the night, for the sake of accomplishing his evil designs." (*Eleven Years in Central South Africa*, by T. M. Thomas.)

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[1] Probably derived from the Zulu phrase "*ukuBula muntu*'" = to point out a man (see Colenso).

In Mashonaland the *mloyi* is supposed to be assisted by various agents; the most interesting seems to be the *Isituhwana* (who is believed to be the spirit of a deceased *Mloyi*, which has been captured by a living *Mloyi*, and which obeys his commands), *Dzija*, of *Simbuwanana*, "an imp, with the shape of a human being covered sparsely with tufts of hair, but possessed of only one leg." The natives believe that *it can imitate the voice of any human being*, and whoever is struck by it is sure to die. Thus ventriloquism plays an important part, and witchdoctors possessing such powers enjoy an increased reputation. The baboon and hyena are always associated with witchcraft, and the *mloyi* is supposed to ride naked on one of these to the scene of his evil work, or to the meeting of the various *baloyi*, where they indulge in the ghastly feast of unearthed human beings. Hence the practice of the Mashona to guard the graves of their dead for a time. Or he walks about with an owl perched on his head or shoulders. This bird is viewed as an evil omen, and cases are known where the natives moved their kraals because an owl had sat on one of the huts.

In "A Few Sayings and Omens," contributed by Mr. R. E. Dennett to the Liverpool weekly, *West Africa*, he writes of the Fyat tribe—"Then, concerning owls, see that your camp at night is not disturbed by the *kulu* (spirit of the departed), that warns you that one of you is going to die."

In *Garenganze* (*N.W.R.*) by F. S. Arnot, "Many have a superstitious dread of the horned nightowl. Its cry is considered an evil omen which can only be counteracted effectually by possessing a whistle made out of the windpipe of the same bird."[1]

A peculiar form of *ukuloya* (to bewitch) in Amatongaland is the administration of the love charm. It is known as *rabiya*. If a young man loves a girl, but she is averse to his attentions, he secures a preparation containing the heart of a male rock pigeon (*ivukutu*), and applies this to her person, or mixes it with her food. In consequence she gets violent fits of hysteria, and it is supposed that she only recovers in the presence of her lover, to whom she will fly, if possible. While in this hysterical condition the girl emits a sound like the call of the rock-pigeon—"*vu, vu, cu, vu*,"—which is often continued for hours. Whatever truth may be attached to the charm, the girl certainly becomes exceedingly excited, bites and scratches anyone who attempts to hold her, and is deaf to all reasoning.

These witches and wizards are the people whom the witchdoctors are ostensibly supposed to "smell out," but the victims were not always "smelt out" for occult reasons. In some instances it might be someone whom the chief wished to punish for some crime, but who was too powerful or too clever for his guilt to be proved, or in another case, it might be someone rich in cattle and wives, and through jealousy and cupidity his neighbours have arranged for him to be "smelt out" so that they can divide his possessions. It was a convenient weapon for a native chief, as he could thus remove a troublesome member of the tribe by a recognised and legal process.

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[1] "The creatures found in caves used for burials, come to be taken for the new shapes assumed by departed souls. For bats and owls being conceived as winged spirits, arise the ideas of devils and angels." From *An Epitome of the Synthetic Philosophy*, by F. Howard Collins.

2. WITCHDOCTORS.—The profession of witchdoctor is practised by both males and females, and, before the natives were under European rule, they only practised with the king's permission. Their influence is strengthened by their keen powers of observation and a most retentive memory, especially for trifles.

The chief witchdoctor in Matabeleland was Zondo, who came into this country with Umzilikazi in 1836 or early in 1837. He lived west of Shiloh on the Umguza River during Lobengula's reign, and was the final court of appeal in all cases before they went to the king for his verdict. Zondo from his position naturally had great influence, and was often consulted with regard to supposed witches. All the *Izanusi* under Zondo worked into each others' hands and were all "in the know" when a case was on.

In trying a case the witchdoctor dresses up in a fantastic fashion with all sorts of skins of wild beasts tied round him, snake skins and bones of various kinds are hung on his neck, inflated sheep and goat entrails are fixed on his head, the whole completing a weird, horrid picture, and, as the native name for witchdoctor in the Colony means, "Something fearful to look at." His appearance alone was sufficient to scare the life out of anyone, but especially terrifying to those before whom he is going to perform, knowing as they do, that when he finished, death awaits some innocent person or persons.

"A cap . . . or any sort of clothing worn by such a person until it has become perfectly saturated with filth, is considered the most infallible cure for all kinds of diseases, poisonous bites, etc. On emergencies a corner of this treasure is washed, and the dirty water thus produced is given to the patient—beast or man —to drink." (From *Lake Ngami*, by C. J. Anderson.) This is also done in Matabeleland.

Before the case begins the witchdoctor has probably been bribed by the gift of an ox or a sheep to select as the wizard (*umtagati*) a particular man, generally one with large herds or flocks or against whom a few have laid their plans, so that they can divide his cattle, wives, and children If Lobengula considered that the accused man was innocent he would refuse to have him killed, and might tell him to remove and live at another place.

Before commencing, the witchdoctor makes the people sit before him in a semicircle, and something after the following conversation passes between him and the people. The witchdoctor, speaking in a very dignified voice, and dancing in front of the people, who are exceedingly afraid of him, says:

"I hear there is witchcraft among you people here assembled. Is it not so?"

People.—"Yes, it is true."

Witchdoctor.—"The witch is also here among you. Is it not so?" And so the conversation goes on until he comes to the point and fixes upon the victim, saying, 'That is the man, he sent the witchcraft among your children, he sent the owl to hoot on the tops of your huts, he is the wolf who prowled round your kraal to bewitch you all and kill your cattle, he—that man there—went to the kloof of the mountain to meet the wolf, and rode on his back so as to reach your kraal to bewitch you; he is in league with wicked spirits, wolves, and snakes—that man, he is the witch, it is not fit for him to live—do you agree to this? Say so all of you with one voice." The people, or at any rate the majority of them, shout, "We all agree!" and the innocent man is, with the consent of the king, sent to his death.

This short description may give some idea of a "smelling out" case, but to describe it from beginning to end would be wearisome. There was so much cunning, deceit, lying, and devilry about it that the details are best left out. It was one of the blackest blots of heathenism, and accounted for most of the horrible crimes which were committed not only during Lobengula's reign of twenty-two years, but in all South Africa for centuries.

It is an historical fact that the great Zulu king, Tshaka, put the *izanusi* to a practical test. He secretly smeared the ground in front of the royal hut (*isigodhlo*) with blood—an act of treason if committed by any member of the tribe. Naturally the following morning there was a great outcry. All the witchdoctors were summoned in order to discover the perpetrators of this outrage. Numerous persons were pointed out by them as the guilty party. One doctor, however, exclaimed that the *Izulu* had done it, which pleased Tshaka, and which he interpreted to mean him. The doctor in question was the only one spared, all the others were slain by their would-be victims on Tshaka's orders. It is stated that ever after, he would not order a man's execution because of having been "smelled out." Umziligazi, to prove the nonsense of witchcraft, once put a stone in his mouth to represent a swollen cheek. He then called all his witchdoctors to "smell out" the person who had done it. After several of them had smelt out their victims he spat out the stone.

3. WITCHDOCTORS (*UmHlahlo*):—(From *Bantu Folklore*, by M. L. Hewat, M.D.) "The chief agrees to the summoning of a great *umHlahlo*, *i.e.*, a great public dance, to which selected tribes are invited and must attend. The tribes being assembled, the *Gquira*, after various incantations and probably working himself or herself (for females often take this profession) into a frenzy, will single out an individual, or even at times a whole tribe, as a guilty party, by throwing ashes over them, this act being called *unkunuka*. These parties may have been guilty of, say, causing sickness in the king's household, making one of his wives miscarry, or, in the case of a tribe, having assisted in the escape of a fugitive.

"Those proclaimed guilty at an *umHlahlo* by means of the *ukuNuka* (the throwing of ashes)—the sign of being 'smelled out'—are often summarily slaughtered, or at least severely punished, often with horrible tortures."

When the Inyamayendhlovu regiment (Rhodesia) went to the head witch-doctor (*sanusi* or *sangoma*) Zondo, they were said to *umHlahlo*. They were made to leave their assegais and guns a long way off. They went up to Zondo's kraal and formed a half moon, with Zondo sitting in front of the middle of the half moon. He drank beer out of a small calabash, then he jumped up and first said one thing and then another—not using any ash, as the Zulus did—but eventually "smelt out" five persons as wizards who were killed for witchcraft. Lobengula did not wish to kill these particular men, but the *induna* of the regiment (*Pahla*) and two of Lobengula's brothers were determined to have them killed, and Lobengula had at last to give way.

At this ceremony (*umHlahlo*) the witchdoctor (*sanusi* or *sangoma*) would make a statement to which the assembled people would *vuma* (*vuma* means to consent or say yes). Those in the know would lead the *vuma*-ing, and they would *vuma* only a little if the witchdoctor was on the wrong track, but if he got on the right track they would *vuma* loudly.

The *Gqira* or *Dqiha* was not known to the Mandebele.

4. WITCHDOCTORS (those who threw the *Upondo Iwebalabala*).—Some witchdoctors, when called to ascertain the cause of sickness, etc., do not throw the bones but stab the ground with the point of a koodoo's horn. The horn (*pondo*) is first filled with medicine—some to be taken, and some simply to drive away the ghosts or spirits (*imikoba*). The ground is struck by this horn with great violence, and the doctors work themselves up into a state of great excitement before giving their revelation.

The Makalanga call the medicine horn *lunyanga*, which is the Sikalanga word for horn, and the medicine they call *gona*. The Mashuna call the horn *vunyanka*. There used to be a famous woman living on the outskirts of Empandene who practised this.

5. BONE THROWERS.—Bones (*amatambo*). To throw the bones, *ukuponsa amatambo.*

"This superstitious practice, just as it was described more than 300 years ago by the friar Dos Santos, is still prevalent and firmly believed in." (McCall Theal, p. 101, in *History and Ethnology of South Africa before* 1795.)

The profession is more or less confined to sickness among cattle, sheep, goats, men, women, and children, to lost property and food. It may be practised by either male or female, but is generally handed down from father to son. The son, when young, is given certain medicines to drink. At night he dreams that he finds out wonderful things by means of the bones. The father continues to give him medicine, and in due time the son, after he has proved to his father his ability to discover the cause of, and cure for, the sicknesses of people and animals, is proclaimed a bone thrower. To test his capabilities a stick or stone is hidden in a hut or corn bin in the kraal, or in the fence surrounding it. The discovery of this stick or stone is another proof of the power of the bones to reveal the thoughts of men and women.

Minor bones.—I have one set consisting of three sea shells (one, a cowrie) ten carpal and tarsal bones of ungulates, two pieces of carapace and plastron of tortoise and the toe-nail of an ant-bear. The claw of the ant-eater stands for death (*M.D. and D.D.*, by A. Werner in *African Monthly*, April, 1909). Another set lent to me by the Chief Native Commissioner of Matabeleland consists of the following forty articles:—A duiker horn with the open end filled with wax and beads, femur and humerus of tortoise, and two small pieces of carapace of tortoise, four half seeds of *um-goma* tree (Kalanga name), or *um-ganumapoble* (Matabele name), two small pieces of carved wood (Fig. 1) and a twig, a pair of pisiform and a pair of calcaneum bones (from wrist and ankles) of baboon, sixteen *astragali* of goats, four sea shells (one cowrie), four claws of leopard, one broken clinical thermometer in case, and one round white stone. Probably there may be some medicine inside the duiker horn, but it has not been opened. Possibly it is similar to the horn and contents mentioned in the following extract:—

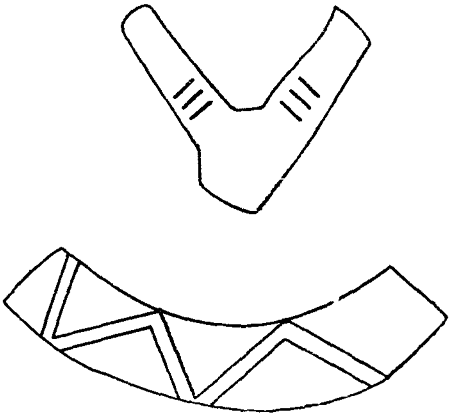

FIG. 1.

"One of the articles obtained was a small antelope horn called *egona* or *igona* in which was a mixture of ground-nut oil and a medicinal bark known as *unchanya*. The concoction is taken out on the end of a stick termed *mutira*, and administered to the patient by dropping it into his ear. The doctor stated that it was a sure cure for headache." (*On the South African Frontier*, by W. Harvey Brown.)

The round white stone, which will be met later amongst the bones from North-West Rhodesia, reminds one of the white pebble mentioned by the Rev. Mackenzie, in his book, *Ten Years North of the Orange River*: "A certain white pebble . . . is thrown into the courtyard of a rival, in the belief that it will disorder his ideas, turn and warp his judgment, so that his followers shall forsake him, and he becomes a prey to his enemies."

Round white pebbles, no doubt of a magical character, were occasionally found in the Round Barrows at the beginning of the Bronze Age. They were in all probability used as magic stones.

"In the Highlands to-day similar curestones are still cherished. They are considered as precious heirlooms, and kept carefully wrapped up in the choicest and most expensive cloth. Moreover, one way of using them is to make the patient drink the water in which they have been dipped."[1] (*Romance of Early British Life*, G. F. Scott Elliott.)

"Amongst the Ba-Thonga the astragalus of the goat, the he-goat and the kids represent the mother, the father and the children of the kraal where they stay, those of the wild pig the spirits of the deceased, viz.:—the gods who have been buried in those mysterious forests where the wild pigs dwell; those of the small antelope which goes about at dark represent the witches, who bewitch people during the night." (*The Ba-Thonga of the Transvaal*, by Rev. H. A. Junod.)

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[1] "The ancient Irish had also a custom of burying white stones or lumps of quartz crystal with the dead, these are by the peasantry of the North of Ireland sometimes called 'Godstones.' A cemetery of stone-lined graves near the ancient burial ground of Saul, County Sligo, was literally filled with pieces of angular-shaped white quartz, and similar fragments accompanied almost every interment in the Carrowmore series of rude stone monuments. These white water-worn pebbles, or quartz stones, serve to identify the human remains as belonging to a very ancient period of sepulture," *et seq.* From *Elder Faiths of Ireland. Pre-Christian Traditions*, vol. i, by Wood Martin.

With the Ba-Ronga the divinatory bones are consulted—with regard to the adjudication of an inheritance—"should the astragalus of the goats fall in the right position, should, moreover, the astragalus of the duikers and other beasts of the bush fall far away it means that the old women of the village (the goats) will be pleased and that the adverse influences from outside (the duikers) are not to be feared." (*The Fate of Widows amongst the Ba-Ronga*, by Rev. H. A. Junod.) According to M. L. Hewat, in *Bantu Folklore*, the Kafirs use similar bones, but they are variously coloured.

Major bones.—These bones, in Matabeleland, are generally made from the teeth of elephants, hippopotamus, and wild pig (*ingulube yeganga*), and are always of the same shape and have the same designs by which they are easily recognised.

"It (the apparatus) consisted of four pieces of bone, carved and strung together; by them he professes to foretell what luck will befall a hunter or anyone else. They are unstrung and shaken in the hand, and then thrown on the ground. The person going to hunt must spit on the ground, and as he throws he must say, 'My gun! may I shoot something?' The bones as they are hung, appear about the size and shape of a swallow-tail butterfly." (*Matabeleland and the Victoria Falls*, by Frank Oates, F.R.G.S.)

The four bones of the Mashona tribes are of wood. The design of one bone is always a representation of a crocodile, the other three probably vary (Plate XLVII, Fig. 2).

The four bones of the *Batoka*, *Batotela* and *Baleya* (North-Western Rhodesia) are evidently intended to be fish-shaped, and, as will be seen from the photographs, they have various dots on them (Plate XLVII, Figs. 3 and 4). I mention them here as the names of these bones are somewhat similar to the local names, and they have the same significance, as follows:—

Significance.	Amandebele and Makalanga, etc. (Plate XLVIII, Fig. 3).	North-West Rhodesia.	Budla, Makorikori and Mazizuru (Mashonaland).
a.	*Kwami*	*Kuami*	*Chito-gadzima.*
b.	*Tshilame*	*Karumi*	*Chirumi.*
c.	*Lumwe*	*Insanga*	*Nokwara.*
d.	*Dagwala* or *Inagwala*	*Kanakosi* or *Chirongosi*	*Kwami.*

a. Manhood, *i.e.*, strength.
b. Youth, *i.e.*, young manhood.
c. Girlhood, *i.e.*, innocence, joy, pleasure.
d. Womanhood, *i.e.*, maternity, hospitality.

Although each bone has its distinctive name[1] there are also words to express the various combinations, for instance, *libango* when *dagwalu* and *kwami* fall with the design showing, and when *lumwe* and *kwami* turn up together, *togajima tshinakwame,* which means that the man causing the bones to be thrown is satisfied—his heart is white. When *tshilume* is the only one with the design showing they say *tshoka* which means "alone."

Families or individuals, however, appear to have sets of from four to sixteen "bones," on which they carve various designs and throw when they are in difficulty, or possibly to play games of chance. "On the evening of a new moon they will seat themselves in a circle, and the village doctor will go round tossing each man's set of dollasses[2] in the air, and by the way they turn up he will define the fortune of the individual for the month that is to come." (J. T. Bent's *Ruined Cities of Mashonaland.*) (Figs. 2 and 3, p. 544.)

Sometimes two or even four sets of "bones" are used, in accordance with the importance of the point at issue. When throwing with the wooden "bones" the doctor takes two bones in each hand and, after tapping the ends of the two bones in one hand against the ends of the two in the other hand, he tells the bones the point at issue, throws them on the ground and looks to see how they have fallen; which have the design uppermost or the reverse. He may then throw a second set in the same manner and compare the two answers, the second throw confirming or nullifying the first. When he has finished the bones are returned to the medicine bag as, when they are away from the medicines (herbs, roots, etc.), they lose power. If the bones fall with the blank sides uppermost or the reverse they say *amashangulo,* and the throw foretells misfortune, or " the diviner chews medicine, and then passes the bones in front of his mouth, that he may breathe on them; or else blows some smoke on them that he may charm them. Next he places most of the bones in the hands of the suspected witch or wizard, keeping one or two in his own hand. At a given signal they both throw the bones down to the ground, and the doctor very carefully examines the way in which the bones lie. He notes whether any bones lie on top of the others, and so forth."

"From these data he forms his decision as to whether the suspected person is guilty or not." (Dudley Kidd in the *Essential Kafir.*)

In Matabeleland the bones are taken in both hands and thrown on to the ground. The doctor may use only the "major" sets, or he may use both the "major" and "minor." But in the former case he gives his decision from the position they assume, and in the latter from the way in which they are piled on each other.[3]

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[1] "Each bone has its *isibonjo* or praise-giving names, one or more." From *Religious System of the Zulu*, by Callaway.

[2] Dutch name for these bones.

[3] "The medicine men divine by counting pebbles. Lucky numbers are 2, 3, 5, 8 and 10, 3 and 5 particularly so; unlucky numbers are 1, 4, 6, 7 and 9. 1 is the most unlucky number and 4 the least so. The counting is generally commenced at 20, *i.e.*, after four groups of 5 stones each have been arranged on the ground." From *The Nandi*, by A. C. Hollis.

The question of the falling of the bones when thrown on the ground is very intricate and involved, as the reading by a diviner in one part of the country does not agree with those in other parts, and in giving you information he may be referring to criminal cases, whilst another may be referring to social questions. Needless to say the bone thrower always charges a fee.

Bones are thrown for the following purposes:—

If moving a kraal to enquire (*uku-tuta*) whether the new site that has been chosen is a good and healthy one. After having fixed on the site the doctor smears four wooden pegs with some decoction, and marks the boundaries of the new kraal by fixing them in the ground. This he does with great solemnity and after apparent consultation with invisible spirits. He also pours water on the ground. When the limits of the kraal have been defined a goat is slaughtered for the bone thrower and he receives his fee. Among the Makalanga any man can throw the bones for ordinary purposes such as the removal of a town, but, when the new site is decided on, the chief, smearing his axe with medicine, cuts down the first tree and with its branches marks out the site and the place for the principal hut.

If a relative has been lost sight of for some time, to enquire what has become of him. In such cases a certain bone will represent the person regarding whom the enquiry is being made. To tell what luck they will have out hunting.

Before going to war.—In addition to throwing the bones a medicine called *omabope* was thrown into the river to ensure success and safe return.

To predict the result of a journey. In sickness, to say whether a patient will recover. To find out the cause of sickness.

The answer to the last is generally that the afflicted one is bewitched, either by a living person, who must be discovered by the bone thrower, or by one of the spirits which must be propitiated by a sacrifice. This will mean that an ox of particular colour, black or white, or red with a tail which has its tip all white, or horns of a peculiar shape, must be killed. The blood and meat of the beast must be kept and placed in a hut during the night, so that the spirits of the sick man's ancestors may feed off the meat, and be appeased; he must also have Kafir beer brought to him, and what the spirits leave of the meat and beer the bone thrower takes to himself. A whole day or longer is sometimes required in deciding a case, especially when beer and beef are in question.

The following reading of the bones applies principally to Matabeleland:—

(*a*) *Kwami* is the most important "bone" as its position shows who brought the sickness, caused the blight in the grain, the death of the animal, child, or man, as the case may be. In certain positions it can also tell the remedy for the blight or sickness. If it falls face uppermost and the others face downwards the verdict is most favourable and means the sick will recover, the absent one is still alive, the journey will be favourable, or the hunt will be successful, according to the question asked. When throwing with regard to a new site for a kraal should *kwami* and *dugwala* (*libango*) fall face upwards, the verdict is favourable, and the next best combination is *kwami* and *tshilume* (*togajima tshinakwame*).

The distinctive mark of this bone in Matabeleland is a dot within a circle with rays branching from it. (Plate XLVIII, Fig. 3, 1.)

On first seeing this mark I wondered whether it had any connection with a sun or spider myth, as these are not uncommon in other parts of Africa. Up to the present I have been unable to trace any of these myths amongst the tribes of South Rhodesia, but Alfred Bertrand mentions one in North-Western Rhodesia in his book, *The Kingdom of the Barotsi*, 1st edition, 1899, p. 277. No other writers, however, mention it, and Mr. C. Bisset of the Native Affairs Department, North-Western Rhodesia, in reply to my letter regarding it, writes :—

"Referring to the quotation from *The Kingdom of the Barotsi*, the Barotsi believe in the one god *Nyambi* and that there is no other god. *Nyambi* created *Mboa*, who was the first *Morotsi*, and from whom, of course, the nation sprang."

Nyambi is supposed to be married and his wife's name is *Nasileli*, but I have never come across the belief that the sun is *Nyambi* and the moon his wife, nor have I ever heard that *Nyambi* had trouble with the first man. Regarding the creation of the animals, the only legend I have heard is that *Nyambi* found the Barotsi country perfectly flat, with no living thing on it nor any vegetation, merely the river and flat sand. He then created the hills and put trees and grass in the country, then the animals and fishes, lastly, *Mboa* and his wife. In this belief a certain resemblance will be noticed to the first chapter of Genesis.

The nearest approach to sun worship with the Makalanga is a shooting star. When they see one they say *I-i-i Tobela*, this being one of the praise names for their Mlimo or god, whom they say is travelling about when a star falls. Amongst bushman rock paintings one finds pictures of the sun (*Arts and Crafts of the Natives of South Africa*, by Dr. Schonland), and as conquerors often take over the folklore, etc., of those they conquer, a sun myth or symbol might have been taken over by the Amandebele from another tribe.

The name of the bone, however, is the Zulu word for "my hut," and the native explanation of the design is that the dot represents the hut of the headman of the kraal and the circle round the dot represents the fence surrounding the hut.

(*b*) The next in importance is *Tshilume*. (Plate XLVIII, Fig. 3, 2.) It represents the spirits of the ancestors who have power to send trouble and sickness. Should this "bone" fall with the design uppermost the verdict is most favourable, and should the position of the other bones also be favourable the verdict will be that the claimant will have speedy success in the hunt or in the undertaking he is inquiring about.

(*c*) *Lumwe* (Plate XLVIII, Fig. 3, 3) has generally one nick at the end and incisions, but in Mashonaland there are always representations of a crocodile. Should this "bone" fall with the design uppermost and the others fall with the designs underneath, it means "escape," the sick man will escape death, the game will escape in the hunt, etc. But if it falls face upwards and *Kwami* and *Inogwana* are also face upwards, it is absolute proof of guilt. This bone is called the "one that hears" (*ukuz wayo*). The figure of a crocodile is seen on a stone beam found at Zimbabwe, which is now in the Museum here (Plate XLVIII, Figs. 1 and 2).

"This bird and beam are undoubtedly not only in the best state of preservation of any yet found at Zimbabwe, but show evidence of more artistic workmanship having been bestowed upon them than any of those previously discovered. Up the face of the beam is carved a crocodile 16 inches long, and round the *cestus* beneath the bird's feet, which is 3 inches deep, is carved work—on one side a large double row of chevron pattern, similar to the pattern on the east wall of the Elliptical Temple, and on the opposite side a single row of chevron, surmounted by two large embossed circular discs; the back edge of the beam is plain, and the front edge above the crocodile has two small embossed circular discs. The bird stands 11 inches high, the total height of the beam and bird being 5 feet 5 inches, its width 8 inches on the flat side and 2½ inches on its end edges." (From *Great Zimbabwe*, by R. N. Hall.)

In *The Native Races of South Africa*, by G. W. Stow, we read, "The Siboko of the ancient stem was the crocodile, even before the lifetime of the chief Kuena, the special founder of the Bakuena proper. Kuena lived twenty generations ago."

As Professor Keane points out, "the Be-Chuana must have crossed the Zambesi from the north at a very early date, because of all the south Bantu groups they alone have preserved the totemic system." (A. C. Haddon, M.A., Sc.D., F.R.S., "Presidential Address delivered at Cape Town before Section H—Anthropology—of the British Association.")

In the *Journal of the African Society* there is a paper by J. H. Venning on Rhodesian Ruins. At the conclusion of his paper Mr. Venning writes: "The eagle was the sacred bird of the Varoswe and is to-day believed by the Mashona to carry the spirit of their chiefs. On the beams on which these soapstone birds are carved is to be seen the sign of the crocodile, which was the Varoswe symbol of witchcraft, and is the principal sign of withcraft amongst the Mashona. It will be found on all the divining bones which are called by the name of *Hakata*." (Called *Akata* by W. H. Brown in *On the South African Frontier*.)

(*d*) The distinctive mark of *Dagwala* is two nicks at the end and incisions. When thrown should the design on this bone show, and not show on the other bones, the matter is regarded as dubious, perhaps the patient may recover, perhaps the hunt may be successful, etc.; but should the design not show, the indication is favourable (Plate XLVIII, Fig. 3, 4).

The Mazizura, Budhla, and Makorikori tribes read the bones in the following manner. The names of the bones reading from left to right on Plate XLVII, Fig. 1, are:—

1. *Chirumi.* Signifies manhood.
2. *Chitogadzima.* Principal bone, health and strength.
3. *Nokwara.* Signifies womanhood, girlhood.
4. *Kwami.* Maternity, the second bone in the set.

With the exception of *Chitogadzima,* bones in different sets appear to be marked differently, but *Chitogadzima* is practically always the same, and is meant to represent a crocodile.

The seeds of the *umgoma* (*mungoma*[1]) are also used as bones, but no marks are made upon them, they being read by the natural markings only; there are six seeds in a set, but they have no names, and are used in cases of sickness only to determine the cause.

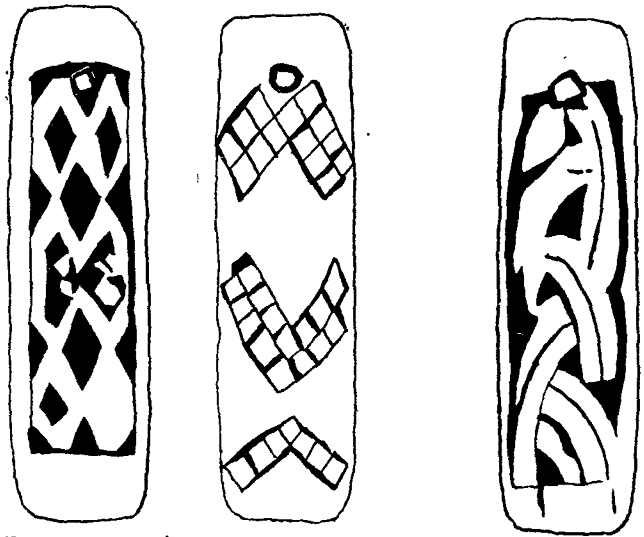

FIG. 2. SPECIMENS OF DIVINERS' BONES USED BY INDIVIDUALS FOR GAMES OF CHANCE (p. 540).

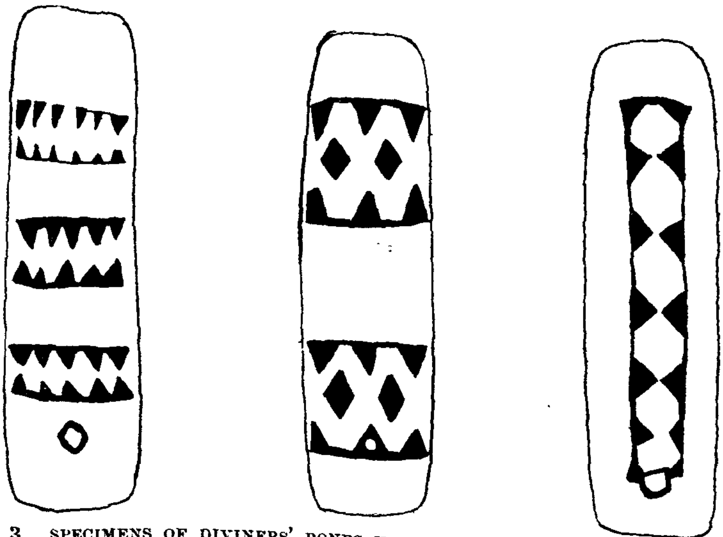

FIG. 3. SPECIMENS OF DIVINERS' BONES USED BY INDIVIDUALS—NOT DOCTORS—FOR GAMES OF CHANCE (p. 540).

The Bujya (M'toko District, Mashonaland) tribe read them in this way. To throw them, three are taken in each hand, the bones in the right hand are thrown upon those in the left hand and all are allowed to fall on the ground. They are then examined to see how many are lying on their faces and how many on their backs. One on its face and five on their backs is called *Chriumi* (little man). "If you are going out hunting you will find no buck." "If a girl is sick she will recover." Two on their faces and the rest on their backs is called *Mawi.* "You will have a prosperous journey." Three on face is called *Mtatu* or *Chitokwadzima.* "If you are going courting you will be successful." "If you are looking for something you will not find it." Four on their faces is *Nokwara* or *Hopé* (sleep). "If you are looking for something you will find it." Five on their face is *Kwami* or *Karomo.* "You will not have a prosperous journey." "You will have quarrels." "You will not find what you want." Six on their faces is *Zungamana.* "If a man is sick he will not recover." All on back is *Zaru o ku seka* (laughter). "You will have good luck." "You will be friends with every one you meet on the road."

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[1] Probably a species of *Erythrina.*

The other bones are named separately—*Kwami, Chitokwadzima* (or *Ngwena,* "crocodile"), *Chirumi* and *Nokwara.* They are thrown in much the same way as the other bones. They are practically the same as those used in the Chilimanzi and other Makaranga districts of Mashonaland.

The natives say the names given to the bones are traditional and they cannot explain them.

The major bones are made from the wood of the *Mutara* tree. It is not a sacred tree amongst the Mazizuru, but is used to surround cattle kraals to keep lions out, and there is no superstition attached to it.

North-Western Rhodesia. Throwing Bones. Makakata (*Sitoka*), *Litaula* (*Sirotse*).—These bones are used by the Batoka, Batotela, Baleya, and possibly some tribes further north, but they were not used by the Barotse or Masubia (Plate XLVII, Figs. 3 and 4). No. 1 is a male named *Kuami.* When the bones are thrown and *Kuami* alone falls with marks uppermost it denotes very bad luck in any undertaking, and adventures with wild beasts if on a long journey. Should marriage be contemplated it should be postponed. Should, however, the bones be thrown for an Induna or chief, quite the opposite is denoted.

No. 2 is a boy, or more properly a young man, named *Karumi.* When this bone alone falls face up it refers particularly to marriage, and denotes that everything is favourable, that no divorce is likely to occur, and that a male child will be born.

No. 3 is a young female named *Insanga,* and, like No. 4, denotes pleasure this bone is an assistant to No. 4, and its business is to accentuate the decisions of *Chinongosi,* should they both fall face upwards: should, however, *Insanga* fall face down and *Chinongosi* face up, *Insanga's* verdict is overruled by that of No. 4. Should it fall away from the others it indicates, in case of sickness, that the sick person will recover quickly, or, when hunting, that lots of game will be found and killed.

No. 4, named *Chinongosi* or *Kanakosi,* is a female, and represents joy and pleasure, and when on throwing the bones, it alone falls with the holes uppermost it brings good luck in any undertaking; as, for instance, should a long journey be contemplated, it may be undertaken with confidence that no misfortune will occur.

No. 5 is a stone found in the stomach of an elephant, and when bones are thrown this stone is laid on the ground close to where the bones fall and lends them very special virtue.

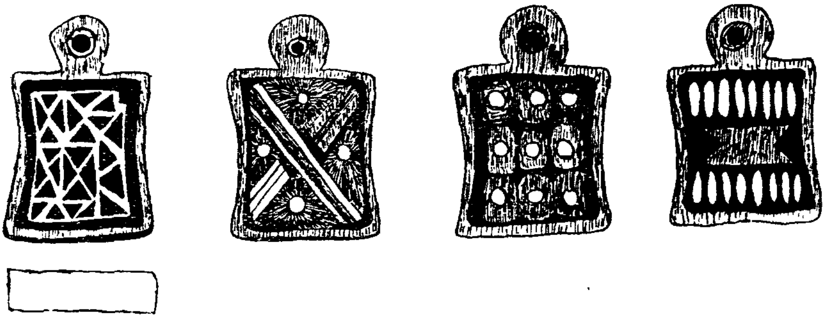


FIG. 4. DIVINING BONES IN THE POSSESSION OF THE STOREKEEPER AT IGWENIA IN 1900. SUPPOSED TO HAVE BEEN USED BY NATIVES FROM LIALUI (N.W.R.) ½.

Natives when hunting and following the spoor of an animal either wounded or unwounded generally carry a set of bones with them, which are frequently thrown to find out how far away the animal is. Should No. 1 alone fall with marks uppermost the animal is near and will be overtaken and killed. Should it, however, fall face downwards the chase is immediately abandoned, as the animal has gone too far. This refers only to occasions when the spoor is rather old, say twenty-four hours, but when the spoor is perfectly fresh or there is wet blood, or any such unmistakable signs of the nearness of the animal are seen, then bones would not be used. *Kuami* decides all questions in connection with hunting, no combination of the remaining three bones having any power of contradiction.

Various Combinations of Bones.—In the case of sickness in a male, should *all* the bones fall face downwards (*i.e.*, spots or marks underneath) the sick man is abandoned as past help, and no further efforts are made to restore him to health; should *Kuami* alone fall face up (on the *second* time of throwing) there is just a possible chance of his recovery; should, however, Nos. 3 and 4 alone fall face up a speedy and complete recovery may be expected.

Theft.—When an article or animal is stolen, bones are thrown before the people of the kraal to which the stolen article belonged, with the object of ascertaining the advisability or otherwise of attempting to discover the thief. Should *all* the bones fall face downwards it is useless to look for the thief, as he will not be found. In the event of all the bones falling face up it is obviously a member of the kraal who has committed the theft. Should *Insanga* and *Karumi* and *Chingongosi* fall face up the thief may be sought for with every prospect of being found. The actual finding or searching out is done by far more powerful medicines, and bones are abandoned.

Witchcraft.—Bones are only used to discover whether or not witchcraft is present, they are never used to point out the witch. On being thrown should the bones all fall face up it denotes that in some form witchcraft is present; at this point bones become useless and a witch-finder is called in.

Fortune Telling.—The four bones are held in one hand and jerked up and down while a song is sung to them in a low voice. The following is a fair specimen of the usual form of the song (Chabaranda is merely a specimen name):—

"I, Chabaranda, am the opener of roads,
I am the pointer out of ways,
When the white man calls I only am not afraid,
Who but Chabaranda can tell the white man the story of the bones, yet find no harm?
Tell me truly of this white man's life, will his ways be clear, will his children and his cattle be many?
Tell me truly will he find sickness or health?"

The bones are now thrown, each combination having a special name, of which the following are seven specimens:—

Karumi mo mo sanguru.—*Karumi* in this instance alone falls with its marks uppermost, all the others being face down, and in falling separates itself from the others and falls alone, and nearer the person whose fortune is being told (we will call him A) than the other bones. This denotes a very very long life, and *Karumi* must at once be rewarded by a fervent kiss.

Mabi.—*Kuami* here separates itself from the others and falls nearer to A than to them, showing that A is of royal blood or will become a member of a royal family.

Kuami mo sangu.—In this instance *Chinongos* falls face down and nearer A than the others. This speaks of a life free from all trouble for A. Should *Insanga* fall face up between *Chinongosi* and the other two, then A's life of pleasure is certain beyond all doubt, because *Insanga* falling in that position becomes *Chinongoi's* guard against the evil influence of *Kuami.*

Karumi mo Chinongosi.—*Karumi* and *Chinongosi's* falling together and face up denotes bad luck and sickness for the herds and flocks of A.

Masunguru.—*Chinongosi* alone falling face up announces that A has been long married.

Mabui.—This is very unusual, and therefore of great importance. All the bones fall face up and quite near together. This shows that A will live and die in his own land among his own people, that his life will be even and that he will never experience any great pleasure or pain, and that he will fill satisfactorily the position in which he was born.

Marumi a bili.—In this case *Kuami* and *Karumi* alone fall face up. This predicts that A will attain to great power in some country and have very many people under him.

RAIN MAKING (M'toko District, Mashonaland).—Witchdoctors are not usually consulted as to rain.

Every tribe has its own Mondoro or protecting god, and there is always a medium through whom he speaks. If rain does not come when it should, then all the women in, say, one kraal take small baskets full of grain to the hut of the oldest woman in the kraal, who must be of the same *M'tupo* " totem " as the tribe of the Mondoro. She then takes the grain to a flat rock and finds a hollow place into which she pours all the grain, and takes a dipping calabash and walks round the grain and calls upon the Mondoro to send rain because his children are starving. They then wait a few days and if rain does not follow, the whole kraal proceed to the kraal of the medium of the Mondoro, and offerings of snuff are made to her and she is requested to call up the spirit of the Mondoro and ask him what the people have done wrong that no rain has fallen. The medium retires to her hut and the people remain outside all night waiting for the spirit to enter the medium. This usually happens in the early morning, when the medium comes rushing from her hut foaming at the mouth and shouting out to the people, who all follow her and ask questions as to what is to be done to get rain. The medium may tell them that they have offended the Mondoro in some way and must make an offering of a goat, head of cattle or a hoe, and if this is done then rain is sure to follow.

The Lion God of M'toko.—As a matter of fact there is no such *Mondoro.* The *Mondoro* of the M'toko people is *Nemaouyo,* and he has his medium through whom he speaks, as do the *Mondoro* of all the different tribes. The Lion God of M'toko is mentioned by Bent in his *Ruined Cities of Mashonaland,* and by other writers ; but where they got their information from I do not know. When I first came to the M'toko I heard plenty about the Lion God, but only from white men who had been in the M'toko country; since then I have had lots of opportunity of going into this matter, having been fifteen years in the M'toko district, and I have come to the conclusion that the whole story is a myth, or a story concocted from scraps of information on different subjects. The " M'tupo " or totem, name of the Budhla (the M'toko people) is *Shumba* (lion). Here you get the reason for " lion god," but there is no such god or prophet known to the people themselves. We are also told that the *Makanga,* in the angle between the Shire and Zambesi, refrain from killing lions, believing that the spirits of dead chiefs enter into them. (*British Central Africa,* by A. Werner.)

The native chief Chaminuka enjoyed a great reputation as Mondoro, not only with the Mashona, but also amongst the Amandebele. It was reported to Lobengula that he could, among other things, hammer wooden pegs into rocks, or produce any animal, such as the lion. Lobengula sent for him, but eventually ordered him to be killed, being afraid of him. According to the native ideas, the various attempts on Chaminuka's life failed, until he himself agreed to die. He was skinned by Lobengula's orders. His spirit is supposed to have entered several persons, making its final appearance in a woman.

Shabi is the spirit of a person of another race and, with one exception, is supposed to protect and assist those who believe in it. Every native man and woman have their Shabi and wear on their person ornaments or certain kinds of skins or different coloured calicoes, according to the requirements of their particular Shabi.

The following are a few of the *Shabi*:—

Shabi ra Mazenda.—This is the spirit of Shangaan natives who died or were killed in this country (during Nyamandi's raid); this Shabi enters only into women, but it is possible for women to have other spirits as well as this particular one.

This spirit is said to give warning of approaching danger to its believers, and to be a protecting and assisting spirit unless neglected, if neglected it is said to cause trouble in the family or sickness; when a women of the *Mazenda* spirit gets sick, the bones are thrown, and if it is decided that the *Shabi* is the cause of the trouble, offerings must be made to the spirit that is in the woman and troubling her; there is a gathering of the women in the kraal who are also of the same *Shabi*, an offering is made of a fowl (a cock always), strings of bark twine made into a necklace, and a monkey skin; these are placed in front of the woman troubled by spirit, and the other women dress themselves in monkey skins and put a *Jukura* (a head-dress in the form of a pom-pom made from reeds and guinea fowl feathers) upon their foreheads, and carry dancing axes (*Zombas*) in their hands; they dance around the person afflicted by the spirit, calling upon the spirit to come out of the woman and leave her in peace; they work themselves into a great state of excitement, and it is dangerous for the men to go near them when they are going through this dance; I have seen them falling down and foaming at the mouth like a person in an epileptic fit; during the dance the fowl offered to the spirit is killed by having its throat torn out by the teeth of the women at the dance; the woman troubled by the spirit is the first to bite the fowl and is followed by the others; the fowl is then cooked and eaten by the women present. The necklace of bark twine and monkey skin has to be worn by the woman afflicted.

Shabi ra Mazungu.—This is the spirit of Portuguese who have died in the country; this spirit is common to both men and women, if in a man it assists him in hunting and in trapping and spooring game, if in a woman it makes her strong and able to work; the offerings of this spirit are red and blue calico and an *Ndoro* or shell worn on the person.

The other *Shabi* which assist in hunting are, *Shabi ra Maziti*, which is said to have been brought from the north by vultures; the offerings to this spirit are red and blue calico, a shell and the tail of a zebra, ox, or antelope, but zebra usually. The second spirit is that of Amandebele warriors who were killed in this country; the offerings are red and blue calico, monkey skins, and a stabbing assegai.

There are many other *Shabi*; *Shabi ra Mafaine, Shabi ra Mavukutiwa, Shabi ra Masangano.* They are all good spirits, and when one dance has been described it would only be repetition to describe the others as they are all practically the same.

Shabi ra Chiti.—This is an N'gozi or evil spirit, the spirit of a native man or woman who has died or been killed on the veld and whose body has not been buried, and whose bones have been scattered by wild animals or birds of prey.

If this spirit is not settled it causes great trouble to relations of the deceased, if offerings are not made all sickness or death will be attributed to it; the spirit is appeased by a goat being killed and the head wrapped in blue calico and buried; this represents the burying of the body of deceased; if a native out hunting should happen to walk over the place where the body of a native has been left without burial, great misfortune will follow; if a married woman should happen to do the same she will have no children, if a young girl she will never get a husband, and if a child it will never grow any bigger.

Rain Doctors (*Inyanga ze zulu*) and Callers for Rain (*amankazana we zulu*, or *bizibizana we zulu*).—The king is the chief rain doctor, but the profession is not necessarily practised by males only. One of the most famous rain doctors was Modjaji, a chieftainess who resided in the Northern Transvaal. She died about twelve years ago, and is supposed to have reached a very old age. She was consulted by envoys who came even from Zululand and Basutoland. It is reported that, when a girl, a Portuguese who claimed to be the "son of God," desired to marry her, but the members of her kraal succeeded in making him intoxicated and carried him away. Modjaji ever after refused to appear in public. It was said she had four breasts, and she was credited with being the source of the locusts.

The *Itsugwana* were girls sent out to call (*biza*) the rain, when the growing crops are threatened by drought. They were almost naked and were striped with ash like zebras. They ran about from kraal to kraal, beating drums and singing songs all along the edge of the cornfields, and on reaching the leading kraal of the neighbourhood, or on returning to their own kraal, the headman gave them corn which they would make into beer. This is one of the songs:—*Ngayine, oya, eya, umjabela, eya, tsokwana, eya, eya, makaule.* The general sense of which is:—

"Oh, it's beginning to rain,
Let it rain very much
Without stopping for a long time.
Let it rain, we rejoice."

There was a man in the old times who was said to be able to make rain, his name was Makaule, and that is why his name is introduced into the song of the *itsugwana*.

7. A Grave Doctor (*U-pulamoto*).—This profession was not known to the Amandebele or to the Makalanga, except by hearsay—it belonged to the Benanzwa (Zanki's people), and when Umziligazi killed old Zanki (called erroneously Wanki) a man named Sisuma fled to Khama's country, where he introduced and practised the custom of *tjay'iliba* (strike the grave). It was practised in this way:—

In the case of a sudden death a well-known doctor is called to go and perform incantations over the deceased so as to cause the death of the murderer or the man who bewitched him. When the doctor has agreed, generally for a heavy fee of three or more head of cattle, "to strike a grave," a goat is slaughtered at daybreak by the person who is engaging his services. After dark the doctor, with the relations of the deceased, goes to the grave by secret paths, and not by beaten tracks, for fear of being observed, takes away the branches over it and leaps about with fantastic contortions, finally falling down in a pretended fit. He then rises and blows into the hollowed forearm of a man (radius, *udweba*), scratches some of the earth away from the grave in various places, and puts medicine into the holes thus made. He then strips off his clothing, blows the *udebwa* again with all his force and calls on the dead man to arise. He then returns to the kraal of the person who engaged him, and tells him that the person who bewitched the deceased will now die from sunstroke, the bite of a snake, lightning, or from internal bleeding. Needless to say, the next person who dies of a curious malady or by accident is considered to be the one who bewitched the person whose grave was struck by the doctor. The goat is cooked and eaten close to the grave by the relatives and the doctor. The natives call the doctor "he who performs a difficult work."

8. NECROMANCERS, SORCERERS.—These people have been described so often that they are well known to every one in South Africa. They think they have the power, by certain movements of their hands over the body, to extract the cause of the sickness. The following is a description of a local case:—A woman, who was suffering great trouble from a cough, went to one of these conjurers. After passing his hands several times over her head, chest and body, he produced a small ball of goat's hair, which he declared was the witch who was causing the cough. A common method is to make an incision in the back of the sick person, suck the wound, and then produce a caterpillar or some other small beast which was previously in the doctor's mouth.

"The Australian *Koondie*, while exercising all that he knows in the way of medical practice by horrible stews and by massage, beats the hands of his patient with red coals, mutters horrid sounding incantations over him, and finally produces something (it may be a bit of wood) that has bewitched him." (*The Romance of Savage Life*, by G. F. Scott Elliott.)

9. SACRIFICES.—Should a person fall sick and the bone thrower be consulted, he will probably say that the malady is caused by an ancestral spirit, and that the relatives must make a sacrifice (*tetola*) to the spirits if they wish to save the life of the sick one.

The word *amadhlozi* means disembodied spirits, of which there are two classes—good and bad. Lobengula told the Rev. D. Carnegie that the Amandebele believed the good spirits all lived round about the towns in the pleasant parts of the country, and the evil ones were forced to live in the malarial and marshy places, in the unhealthy swamps of the wilderness alone by themselves. The good ones lived in a "happy hunting ground," the bad ones in a howling, horrid wilderness. At the ceremonies of the great dance Lobengula was said to offer human blood to the spirit of his father Umziligazi, but this has never been proved. He prayed to the spirits and the Rev. W. Sykes once heard the prayer. It was to the effect that Mlimo would give them good crops, keep away all sickness and make them conquerors in the day of battle.

The *Batjwapong* under Chief Khama are the only natives in the country who were said at times to offer human sacrifice. When there was a drought they would waylay some man and try to strangle him; if he made a noise they at once let go of him as the charm was spoiled, but if he did not make a sound while they killed him they used his body to make rain. If he made a noise they believed that lightning would kill a lot of people if they killed him. The Amandebele and the Makalanga made no human sacrifice.

Oxen, goats, and beer were used for sacrificial purposes, not sheep, and the sacrificial animal had to be perfectly black. An animal would be called by the name of an ancestor and kept as representing his *dhlozi* or spirit, and, if it died or was killed on account of old age, it would be replaced by another.

"The interment over, 50 black oxen were sacrificed to the spirits of Umziligazi, Umatjobana his father, and Umankete, his grandfather, with those of other worthies of ancient days By offering these cattle for the people to their gods, the officiating priest introduced Umziligazi to his father, grandfather and others, speaking of him in the highest terms." (*Eleven Years in Central Africa*, by T. M. Thomas.)

The Makalanga had a set place for praying to the spirits and propitiating them. It was called *shumba-lume*, which means "lion man" and doubtless suggests past nature worship. It is formed by three stones called "the father," "the grandfather," and the "great grandfather," but in the past it consisted of two stones and a pointed stick.

The name *shumba-lume* would lead one to suppose that it had some connection with the *i-shumba* dance described later on, but natives will not admit that any connection exists between them. As Mr. W. E. Thomas suggests, the origin of the word is probably lost in antiquity.

This place must not be confounded with the platform called *ishumba-ulu* (a species of *terminatia*), which is made of four posts from the *umangwe* or *umsuru* tree and has stones under it. *Ishumba-ulu* denotes the top of the corn bin under the thatch roof or *tuli*, and has nothing to do with the place for sacrifices.

There are four principal sacrifices. First, with a mild native beer *imbila;* second, porridge *isitsheza*; third, a living goat (*uku-tetela ngembuzi ezwayo*); and, fourthly, and most commonly, by a goat that is killed.

When the Makalanga make a sacrifice of beer it is placed in a small pot, *udiwo*, near the *shumba-lume*. The pot is turned round and round by the person offering the sacrifice, and at the same time they sing to the spirits, "Behold the beer which we offer you, that you may drink and be filled, together with your relations and children" (*namp utshwala esikunika bona, udhle usute, zidhle lezinini zako, labatwana bako*). The beer was then poured out and the little children would lap up as much as they could from the ground. When this was over everybody would take a little white Kafir corn in their hands and dash it down. On some occasions the beer may be put into a wooden bowl (*umganu*), and another bowl, smeared on the outside with ashes, is put on the *udiwo* as a lid.

The porridge is offered in the same way as the beer, or the woman who cooked it may bring it to the *shumba-lume* and distribute it in wooden bowls to those sitting round, after first sprinkling a little meal over them and saying *bamla jigwa, swini swangu*, etc., or some other formula. This is probably "woman language" which is a contortion of their language and is only understood by the women. Before they eat the porridge the woman says the same as is said in the sacrifice of beer, viz., *nank ukudhla*, etc. When the porridge is eaten she piles the bowls near the entrance of her hut and thus addresses the spirits:—" Please leave off doing this, *i.e.* sending sickness or hunger—let us have food ; we are on the veld" (*akukaule kwenza nje : kasipiwe ukudhula sisegangeni*). The Makalanga do not offer porridge but throw boiled whole grain down on the *shumba-lume* which is eaten, as the beer is drunk by the children, on hands and knees, from the ground.

To sacrifice the living goat, it is brought to the platform at sunset and the person making the offering fills his mouth with water and squirts it over the animal after putting the goat into the goats' kraal.

The most general way is to sacrifice a goat by taking it to the *shumba-lume* at sunset or sunrise and stabbing it to death. After it is cooked the person making the offering says to the spirits, " Here is the meat that you like, come together all of you, eat and be filled, you and your relations and your children. Do not kill us to-morrow saying we refused you food" (*nans, inyama yako oyitandayo, siyakunika yona, libautane lonke, lidhle lisute, lezinini zenu, lababtwana benu Kasasa linga bosibulala liti kasilinikanga ukudhla*).[1]

10. *I-shumba.*—This superstition of sacrifices to the *shumba* is unknown amongst the Amandebele and is only practised among the Makalanga. Some natives say that the word *shumba* is the same as that for lion, but others deny it. Probably the former are correct, as one part of the performance by the *shumba* is to roar.

Mondoyama is the *isibongo* or praise name of these spirits, who live in a hut and are consulted by the women.

The *i-shumba* are a distinct group of the Amadlozi, and are said to inhabit the air awaiting a favourable opportunity to enter the living body of one of their descendants. The doctors of this superstition are always females.

Should a boy fall sick, it is said that an *i-shumba* spirit has taken possession of him and finds his quarters uncongenial. He must, therefore, be transferred to a girl. This transference is carried out by killing a goat and putting some of the blood into a broken vessel. Herbs and leaves of certain trees, and heated stones or burning charcoal are placed in a vessel causing a dense steam. A blanket is placed over the rising steam, and the girl to whom the spirit is to be transferred is placed under the blanket with the possessed boy kneeling beside her. By inhaling this steam she is supposed to receive the spirit, and the boy to be dispossessed. Should the boy, however, not get better they conclude that the girl was

[1] " Old men take beer and milk into their mouths, which they spit out towards the rising sun, and say 'Asis . . . look at this beer and milk.' "

" Another prayer, accompanied by libations of beer poured on the ground, says, 'Our spirits, we have prayed to you look at this beer ; give us health.' " From introduction by Sir C. Eliot to *The Nandi*, by A. C. Hollis.

unacceptable, and the same performance is gone through with another girl or sometimes with the boy's mother.

In the case of a sick girl, an *i-shumba* doctoress may possibly be consulted, in which case the diagnosis will be that she must enter the profession of the *i-shumba* as she is possessed by one of this class of spirits.

The girl's father supplies a goat, and she is given a vapour bath, as in the case of a boy, but she only is put under the blankets and has no boy with her. She generally has to remain inhaling the vapour until she is almost choked, and the more she suffers the greater is the credit given to the doctoress who is performing the operation.

Whilst the patient is under the blanket the *i-shuma* woman asks her what her name is and generally receives in reply some odd name, which is taken to be the title of the spirit who wishes to enter the girl. In future this name is only known to the *i-shumba* woman and to the girl's family, who must only call her by this name when she is under the influence of the spirit. Should this name be used at any other time in her presence they say that the girl will die. When the girl recovers from her sickness her hair is cut.

After this is done all the *i-shumba* women meet and the girl goes through the final initiation ceremony. This consists of drinking a compound of raw goat's blood, tobacco juice, meat and herbs. Should this make her sick it is taken as a sign that the *shumba* spirit rejects her. On the other hand should she retain the mixture she is entitled to wear the special costume of the *i-shumba*.

The costume consists of a head-dress (*ingala*) of large red, white and black beads, sometimes decorated with two ostrich feathers, which projects until it covers half the face. A mantle of different coloured prints, and a skirt of goat, calf and lynx skins, with anklets (*amahlwai*), to be worn at the *i-shumba* dance, completes the dress. On no account must an *i-shumba* woman wear the skin of a sheep or antelope, and, when not under the influence of the spirit, she must not see any portion of her *i-shumba* costume, otherwise she will die. These garments, therefore, are generally kept in the kraal of a relative.

After receiving their dresses she and the *i-shumba* women perform the *i-shumba* dance, afterwards eating their special food, which includes the flesh of goats; sheep, hares and steinbok, however, are forbidden, otherwise the food is superior to their every-day fare. The next day they all go very early on to the veld to resume their daily names and appearances (*uku-tsemuta*). This change has never been seen and no account of it is known.

The *shumba* women will not hoe their lands if their dance has not been held, as they say that if they do not respect their spirits there will be no crops. The dances are held only at night time, and anyone may be present. Two dances take place every year—one before the lands are hoed, and one when the crops are ripe.

Before a dance the *shumba* women collect in the kraal of their head woman and a young girl is sent behind a hut where she has to call out "*ehe! ehe!*" The *shumba* women then fall down in a pretended faint caused through the spirits having, it is supposed, rushed in and taken possession of them. They then stand in a circle round the head woman and sing. Presently they all give a loud shout, intended to represent the roar of a lion, and the head *i-shumba* falls down in a pretended fit whilst the remainder go away from her and continue dancing.

This dance may also be carried out on any evening should the head of a kraal or a man be seriously ill, but, in other cases of sickness, instead of this dance, sacrifices are offered to the ancestral spirits. With the Banyai, Bananzwa, and probably the Makalanga, tribes, an *i-shumba* girl is only allowed to marry a man from the kraal of the *i-shumba* woman who initiated her. Needless to say, the power of the old *i-shumba* women was very strong and harmful. Natives deny, however, that this is the custom now.

11. ORDEALS.—*Trial by Ordeal.*—I have heard of no ordeals amongst the Amandebele, but they are common amongst all the tribes of Mashonaland, and there are several different trials. One—*M'teyo*—is the greatest trial of all, and is used where a person has been smelt out as a witch and as having caused the death of people or animals.

The *M'teyo* is a noxious mixture made from the castor oil bean, and mixed with some drug supplied by the witchdoctor who did the smelling out. Every doctor has his own favourite drug, and very few of them are known to the ordinary native, but I know that the excrement of the hyena forms a portion of the mixture in all cases. The victim is taken close to a stream near or at the kraal of the person whom he or she (usually she) is supposed to have bewitched and killed. She is then made to stand in a stooping position, and the doctor pours the mixture into a wooden dish, which is held by the son or nephew of the accused to her lips, and she has to drink until she vomits or purges. If the former then she is innocent, if the latter, guilty. As many as twenty plates full are given. There was a case in which a women was made to drink twenty-four plates full of the mixture; she vomited repeatedly, but the witchdoctor said her evil spirit was strong and continued the doses, until the result that at the twenty-fourth plateful she purged and was proclaimed guilty. The woman, not thinking she had had a fair trial, went to a magistrate or Native Commissioner, and, needless to say, the parties concerned along with the witchdoctor were punished. The above trial is similar to the poison trial of West and Central Africa. (See 322, *Holub*, vol. ii, a similar ordeal is described amongst the Barotse.)

Boiling Water Trial (*Nyikisa*).—This trial is used in cases of theft. As usual, the witchdoctor is first consulted, and when he has found the victim, the person who has lost goods or grain proceeds to the victim's kraal with a brass ring or hoe, and simply says *da ku nanga*, I smell you out. A meeting of the headmen is then called and the accused is given the chance of going through the trial by ordeal of the boiling pot, or of paying damages. If he elects to go through the trial, a pot is put on the fire three-quarters filled with water and brought to the boil. A white stone or brass ring is then put into the pot and the accused has to dip his hand and arm into the pot and take it out. If, when the chief takes hold of his arm when withdrawn from the pot, the skin comes off, then he is guilty, but if not, then innocent. I have personally seen a case where not the slightest harm came to the accused; the water was at boiling point when taken from the fire, and not five seconds elapsed before the accused put in his hand. I cannot account for this unless it is true that the natives have a drug which they put on their arm before the trial takes place. It is enough that it can be done, and there must be some reason for it. I may be slightly superstitious myself, but I am not prepared to accept the opinion of a certain missionary, who, when I told him of this, informed me that he had also seen it done, and put it down to supernatural agency. The above trial is also used in cases of adultery.

Boiling Water Trial.—This is performed in the following way. Two pots of water, one cold and the other boiling hot, are prepared. Six small pebbles are placed in the boiling water. The accused has then to take a live fowl and place its feet in the boiling water and then in the cold. If the feet are burnt it is evidence against the accused, who is then required to take the pebbles—one at a time—out of the hot water and place them in the cold water. The whole hand and wrist are immersed in the process, and if the accused becomes scalded his guilt is assured.

The Rupadza or Fire Trial.—This is not so much practised, but was used in cases of adultery and theft.

A worn out hoe is made red hot in the fire and accused has to lick it with his tongue; if the skin comes off he is guilty, if not he is innocent.[1]

Basori Tribe (*North-West Rhodesia*).—There are no witchdoctors in the neighbourhood of Kasisi (the Basori tribe), the nearest being amongst the Ba-renje tribe where they are called *balaye*. They are not known to use bones, but cure sickness with the scales off an animal with a long tail, which is found in secluded spots after heavy rains. This animal they call *n-k-aka* (the bones used by other tribes they call *nkakata* which is almost the same as the word *akata* used by the Makalanga.) It is supposed to come direct from heaven. For this reason and because it appears only after heavy rain, its scales are supposed to be an infallible cure for sickness. The scales are strung on to a belt and passed over the shoulder of a sick person so as to come round under the arm on the other side.

The Rev. Father Torrend saw one of these animals in the vicinity of Tete.

They also have an operation called *ku-sonda*, to smell, to divine. This is carried out by means of the handle of an axe or hoe. The man who smells rubs this handle against the ground, then knocks on it with his index finger just as we knock at a door. He then pretends to hear the spirits talking from the ground. *Ku-sonda* is practised principally in cases of sickness and common ailments.

There are dice throwers at Sena on the Zambesi.

[1] "We read in Nicephorus, that Chunegunda, the wife of Henricus Bavarus, emperor, suspected of adultery, trod upon red hot coulters, and had no harm. Pius Secund in his *Description of Europe*, c. 46, relates as much, that it was commonly practised at Diana's temple, for women to go barefoot over hot coals, to try their honesties, etc." From Burton's *Anatomy of Melancholy*.

In the Rev. Father Torrend's *Comparative Grammar, etc.,* on p. 291, there is an account of the witchdoctors of the Middle Zambesi.

British Central Africa.—"Neither the divining tablets of the Mashona, nor the knuckle bones of sheep and goats seem to be used—their place is taken by small pieces of wood (*mpinjiri*), some neatly cut into shape, and the claws of the tortoise, which are divided into four pieces—the front or tip of the claw being halved to make a male and a female piece (which are marked on the underside) and in like manner the back." (*British Central Africa,* by A. Werner.)

Bushmen.—Dr. Poch informed me that at Oas and Sidoni he had seen divining bones. The female bone was thinner and more oblong than the male. They were used by the Bushmen of these parts in the same way as the Bantu tribes used them. First they were rubbed with various kinds of medicine and then blown up before being cast upon the ground.

At Oas and Zachas he asked the Bushmen if they had any such things as bull-roarers. They said no, but they knew very well what was meant, and they could make him some if he wanted them. They made him two.

"As a precaution against sickness the Bushmen carried their medicinal roots and charms strung on a string or a cord of sinews and worn as a necklace." (*The Native Races of South Africa,* by G. W. Stow.)

"The Bushmen have no idols or priests. They reckon with their deities directly, with charms made of wood, roots, and so forth, which they wear around their necks. Upon the whole the Bushmen are much less superstitious, or rather their superstitions are less fantastic than those of the negroes generally." (*The Negro Races,* by Jerome Dowd.)

"Like all South African natives, the Masarwas" (the Bechuana name for Bushmen) "are very superstitious. Every man carries a set of dollos or charms, consisting of five pieces, which are consulted on every possible occasion. These dollos are composed of two hoofs of the wildebeeste, two longish pieces of bone or horn, and a small bone of an antelope. To consult them, a man clears a small place on the ground, then he takes them in his hand like dice, uttering some kind of invocation, and then he throws them on the ground. From the position of the dollos he divines what he wants to know in accordance with rules which are generally understood by them. They are remarkably clever in their prognostications." (From the *Report of the South African Association for the Advancement of Science,* Johannesburg, 1904, p. 315.)

"While we sat down, one of the Masarwas took from his neck four curious looking pieces of ivory, three triangular in shape, the fourth long and rather pointed at either end. All four pieces were flat and had a sort of pattern rudely worked upon them. Shaking the ivory pieces in the hollow of his hands, the Masarwa cast them on the ground, and after gazing intently for a moment, all three burst into a torrent of their extraordinary clicking language, pointing at the same time earnestly at the dice, for such I may call them." (*Gun and Camera in Southern Africa,* by H. A. Dryden, 288.) (See 349, 350, *Holub,* I.)

Hottentots.—" In each family the ancestors are considered almost as household gods. One makes prayers to them and offers them gifts."

" By the side of the *surri*, whose functions connect him more or less with the worship of the good gods, are found sorcerers, among whom Hahn places the makers of rain . . . . The Hottentots extremely fear their incantations, and attribute to them almost all the misfortunes which strike their persons or their cattle; they have recourse to a vast number of amulets and practices to protect themselves against them." (*The Pigmies*, by A. de Quatrefages.)

The Physician.—The healing art is practised most purely by the *Mang' anja.* Some of the methods are these:—Cupping by means of a horn whose end is stopped by bees' wax. The blood that fills the horn is thrown to the ground—the disease falls with it. Counter-irritation: sometimes the physician will be content with making a number of incisions, chiefly along the legs; on other occasions he will rub in vegetable ashes.

But a great part of the treatment is by charms. This will be understood when we remember that diseases are supposed to be caused by witchcraft.

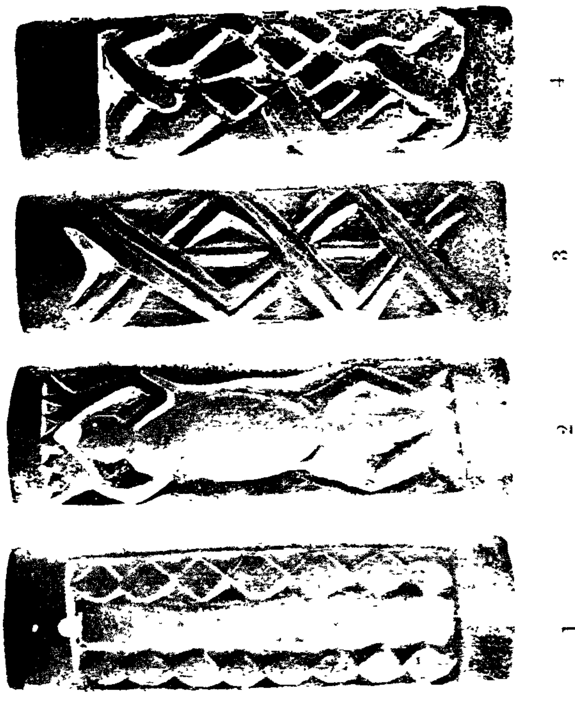
The Sorcerer.—" This brings us to speak of a more terrible member of the learned profession, viz.:—the sorcerer, and diviner, or witch doctor (*nichisanjo*). The 'cup wherewith he divineth' is called *chisanjo* . . . . A person goes to him, and puts as many questions as he likes, and receives answers . . . . While these diviners give their response they shake a small gourd filled with pebbles, and inspect pieces of stick, bones, glass, pottery, etc., which are in another gourd. They often give sound advice, and they pretend to get it by this inspection, as it otherwise might give offence to their clients." (*Africana*, the Revd. Duff Macdonald, M.A., B.D.)

Pondoland.—" In Pondoland I have seen the diviner place the bones in a small sort of calabash which is well shaken. The diviner then chews some medicine and puffs on the bones. After this he throws them on the ground as if they were dice. The diviner notes carefully how the bones lie, and probably throws them a second or third time, till he is satisfied with the indications offered. He pretends to tell by the way the bones lie the direction in which the cattle are straying or the abode of the sorcerer." (*The Essential Kafir*, Kidd.)

Basutoland.—Divining bones or *Ditaula.* These are generally made amongst the Basuto of the leg bones of sheep, baboons, or even of carnivorous animals. They are usually tied together, and by a sort of circular motion are thrown off the string on to the ground. Most of those I have seen were made of the bones of baboons, and these animals had been killed for the purification of sick people. The doctors usually chew some sort of plant, and blow the juice over the bones before they cast them on the ground in order to make the spell work. Generally one throw of the bones is not enough, and two, or sometimes three, are required before the spell works properly, or before the doctor will venture an answer.

Very often he fails and then he has recourse to the excuse that the accused person, supposing it is a case of smelling out, has much stronger medicine.

Journal of the Royal Anthropological Institute, Vol. XXXIX, 1909. Plate XLVII.



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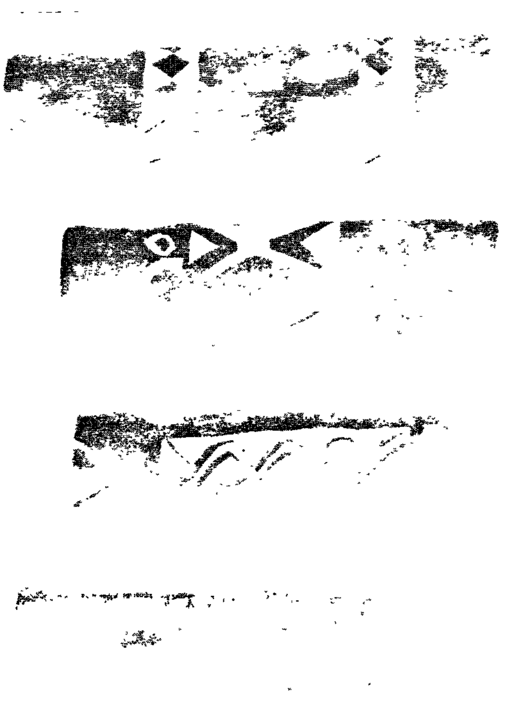

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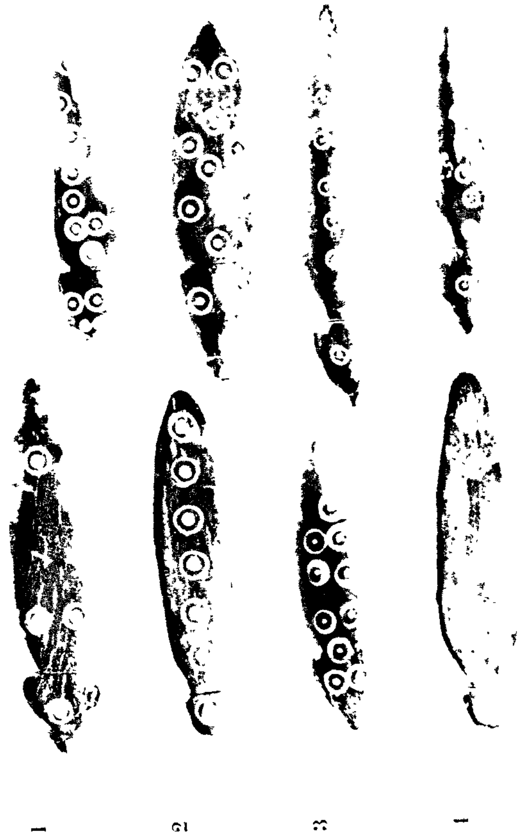

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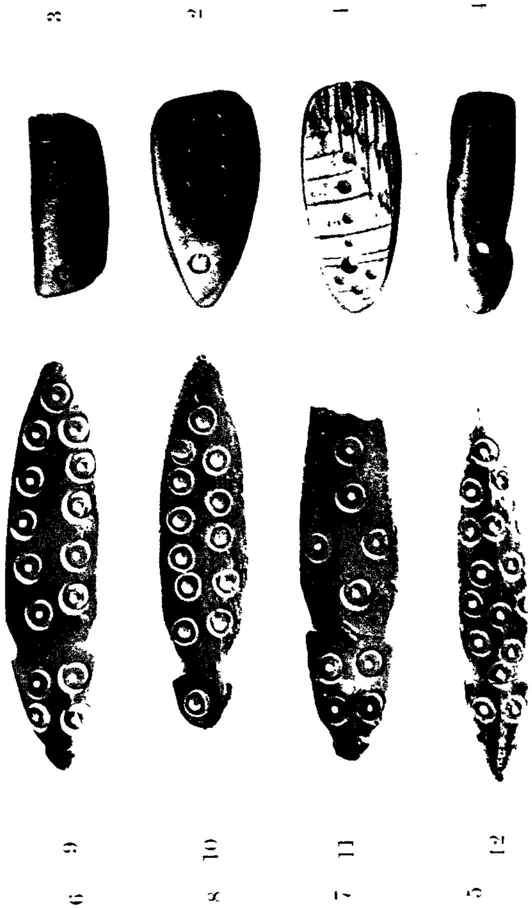

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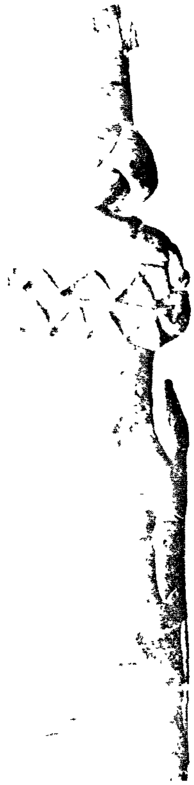

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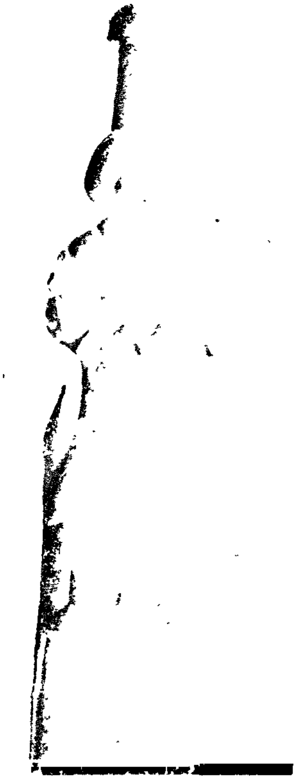

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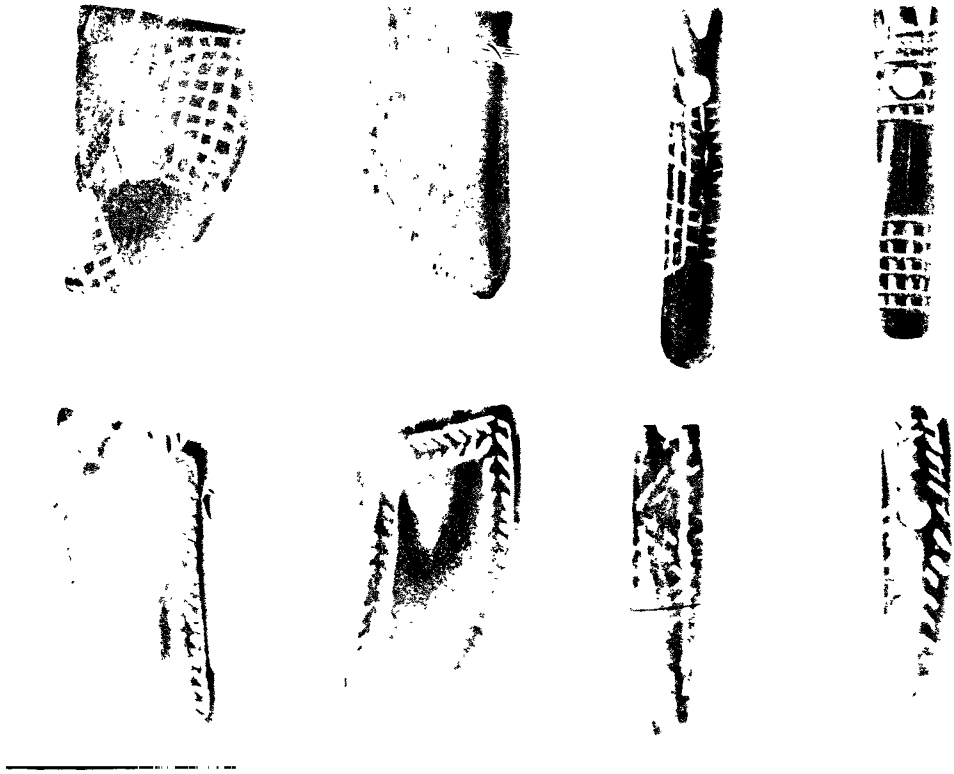

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FIG. 3.

NATIVE WITCHCRAFT AND SUPERSTITION IN SOUTH AFRICA.

MISCELLANEA.

PROCEEDINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE, 1909.

January 26th, 1909.

Annual General Meeting (see page 1).

February 9th, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

The election was announced of Dr. W. H. BROAD, Messrs. C. O. BLAGDEN, A. R. BROWN, J. L. COPLAND, F. H. HARWOOD, A. R. WRIGHT and MALIK MUHAMMAD DIN, as Ordinary Fellows of the Institute.

The Rev. J. W. HAYES read a paper on Deneholes, illustrated by lantern slides (p. 44).

The paper was discussed by Messrs. G. N. CLIFT, MILLER CHRISTY, REGINALD A. SMITH, Sir RICHARD MARTIN, Messrs. W. J. GREATHEED, H. C. VISICK, F. W. READER, C. SALAMAN, H. N. HUTCHINSON, S. H. WARREN and Mr. HAYES replied.

February 23rd, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

The election was announced of Messrs. W. D. BOWDEN, A. B. COOK, and J. H. MARSHALL as Ordinary Fellows of the Institute.

Dr. W. ALLEN STURGE, M.V.O., read a paper on "Man and the Glacial Period," illustrated by specimens.

The paper was discussed by Prof. BOYD DAWKINS and Sir HENRY HOWORTH, and Dr. STURGE replied.

March 9th, 1909.

Ordinary Meeting. Mr. HENRY BALFOUR, Past President, in the chair.

The election was announced of Messrs. H. HIGGINS, B. NICHOLLS and the Rev. E. SMITH, as Ordinary Fellows of the Institute.

The TREASURER gave an exhibition of new instruments for measuring stature.

Sir HENRY HOWORTH, on the invitation of the CHAIRMAN, having taken the chair,

Dr. C. G. SELIGMANN read a paper on the Veddas, illustrated by lantern slides and specimens.

The paper was discussed by Prof. BOYD DAWKINS, Dr. RIVERS, Dr. HILDBURGH, Mr. SMURTHWAITE, Dr. CAMPBELL, Mr. SKEAT and the CHAIRMAN and Dr. SELIGMANN replied.

March 23rd, 1909.

Ordinary Meeting. On the motion of the Treasurer, Prof. BOYD DAWKINS, F.R.S., took the chair.

The election was announced of Mr. ABRAHAMS as an Ordinary Fellow of the Institute.

Miss N. F. LAYARD exhibited a collection of implements of "the older series" from Ireland, and illustrated her remarks with lantern slides (see *Man*, 1909, 54).

The paper was discussed by Dr. CORNER, Mr. WARREN, Mr. READER, Mr. VISICK and the CHAIRMAN.

The TREASURER having taken the chair,

The Rev. Dr. BROWN gave a paper on Melanesians and Polynesians.

April 20th, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

Mr. WALTER MCCLINTOCK gave a lecture on the Blackfoot Indians, illustrated by lantern slides.

At the request of the PRESIDENT, His Excellency the AMERICAN AMBASSADOR proposed a vote of thanks to the lecturer.

May 4th, 1909.

Ordinary Meeting. Mr. J. GRAY, Treasurer, in the chair.

The election was announced of Mr. ERNEST BLISS as an Ordinary Fellow of the Institute.

Mr. A. L. LEWIS read a "Note on a Stone on the Rock of Cashel," illustrated by lantern slides (see *Man*, 1909, 107).

The communication was discussed by Mr. MERIVALE, Mr. PARKYN, Mr. HAYES, Mr. SMURTHWAITE and Prof. BOYD DAWKINS.

Mr. A. L. LEWIS read a paper on "Some Irish Stone Circles," illustrated by lantern slides (p. 517).

The paper was discussed by Prof. BOYD DAWKINS, Mr. T. RICE HOLMES, Mr. SMURTHWAITE, Mr. YOUNG, Mr. SEFTON JONES, Mr. PARKYN, Mr. HAYES and the CHAIRMAN. Mr. LEWIS replied.

May 18th, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

The PRESIDENT announced that the Council proposed to adopt a scheme for the affiliation of Anthropological Societies at the Universities, and the new By-Law drafted for this purpose was read by the SECRETARY.

Dr. W. L. HILDBURGH read a paper on "Some Tibetan and other Himalayan Charms and Amulets," illustrated by specimens and lantern slides (pp. 386, 397).

The paper was discussed by the PRESIDENT and Mr. A. R. WRIGHT.

June 8th, 1909.

Ordinary Meeting. Mr. J. GRAY, Treasurer, in the chair.

The TREASURER exhibited a series of slides of the Palæolithic skulls lately discovered in France.

The exhibit was discussed by Prof. BOYD DAWKINS, Dr. WRIGHT, Mr. PARKYN and Mr. SMURTHWAITE.

Dr. KEITH read a paper on "Prehistoric Human Remains" from various parts of England, illustrated by specimens.

Mr. NEIL BAYNES exhibited a series of flint implements found in Anglesey in association with some of the skulls exhibited by Dr. KEITH.

The paper was discussed Prof. BOYD DAWKINS, Mr. PARSONS, Dr. WRIGHT and Mr. GRAY, and Dr. KEITH replied.

June 29th, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

The election was announced of Mr. W. BARNARD, Mr. A. M. BLACKMAN, Rev. S. S. DORNAN, Mr. A. M. HOCART, Mr. H. MYERS and Captain SPENCER as Ordinary Fellows of the Institute.

The PRESIDENT referred to the death of Prof. D. J. CUNNINGHAM, Past President, and paid a tribute to his memory.

Mr. A. R. BROWN read a paper on "The Social Organisation of the Andamanese." The paper was discussed by the PRESIDENT, Dr. RIVERS, Prof. VON LUSCHAN, Mr. GOMME, Mr. LEWIS, Dr. WRIGHT, Mr. RAY and Mr. PARKYN, and Mr. BROWN replied.

November 16th, 1909.

Ordinary Meeting. Prof. W. RIDGEWAY, President, in the chair.

The election was announced of the MASTER of BELHAVEN, Messrs. W. BROWN, T. DALLEN, P. ENTWISTLE, D. SUNDAR, G. F. HODGSON, the Rev. J. K. MACGREGOR, Major MELDON, Major ROBERTSON MILNE, Mr. J. W. PAGE, Prof. C. J. PATTEN, Messrs. R. QUINNELL, S. SLEFRIG and Dr. SPEARMAN as Ordinary Fellows of the Institute.

Mr. F. G. PARSONS, F.R.C.S., read a paper on the Rothwell Crania, illustrated by lantern slides.

The paper was discussed by Dr. KEITH, Dr. GLADSTONE, Dr. SHRUBSALL, Dr. WRIGHT, Prof. THANE, the VICAR of ROTHWELL, the TREASURER, and the PRESIDENT, and Mr. PARSONS replied.

November 30th, 1909.

Ordinary Meeting. Dr. A. C. HADDON, F.R.S., Past President, in the chair.

The election was announced of Messrs. E. DAYRELL, W. MARR and D. WRIGHT as Ordinary Fellows of the Institute.

The Rev. R. A. GATTY read a paper by himself and Canon GREENWELL on the "Pit Dwellings of Holderness," illustrated by specimens and lantern slides.

The paper was discussed by Prof. BOYD DAWKINS, Mr. LEWIS, Mr. ROUTLEDGE, Dr. WRIGHT, Mr. WARREN, the CHAIRMAN, Mr. READER, Mr. SMURTHWAITE, and Mr. GATTY replied.

Mr. CROSS exhibited a stone knife of comparatively modern date from the Shetland Islands.

December 14th, 1909.

Ordinary Meeting. Mr. HENRY BALFOUR, Past President, in the chair.

The election was announced of Messrs. E. H. CHOLMELEY and R. H. WILLIAMSON as Ordinary Fellows of the Institute.

The CHAIRMAN announced that the President had appointed Messrs. R. H. PYE and O. M. DALTON as Auditors of the Institute's accounts.

Mr. E. TORDAY read a paper entitled "Notes on a recent Ethnographical Expedition in the Congo Free State," illustrated by lantern slides, specimens and water colour sketches.

The paper was discussed by Dr. HADDON, Mr. JOYCE, Mr. ROUTLEDGE, Dr. KEITH, Mr. HODSON, Mr. DALTON, Mr. TABOR, Dr. CAMPBELL, Miss WERNER and the CHAIRMAN, and Mr. TORDAY replied.

ROCK PICTURES IN NORTH KORDOFAN.

By H. A. MACMICHAEL, Deputy Inspector, Sudan Government.

DURING a tour in Northern Kordofan in 1909, I found some rock pictures which deserve description. Unfortunately my attempts to photograph them proved abortive, and I can only subjoin tracings of the copies which I made on the spot in pencil. Though I took what care I could to represent exact proportions, I am conscious of the very unsatisfactory nature of such rough work.

The figures chosen for copying were those that were most distinct, but all had suffered from time and exposure and were wholly or partially indistinct.

The most useful method of treating the subject will be to compare these drawings with those described by MM. Flamand, Carette-Bouvet, etc., and to leave the question of their origin to the reader.

The main sites on which the pictures occur are two:—Firstly, at Jebel Haráza, a rocky chain of hills some 95 miles due north of Bara and about 145 miles W.S.W. of Omdurman, inhabited by a mixture of Arab and black (probably Nuba) possibly superimposed upon another race or modified at least by alien blood[1]; secondly, at J. Afárít ("hill of Goblins") about 30 miles E.S.E. of Foga in Western Kordofan, in an uninhabited district occupied until the latter half of the nineteenth century by the Hamar Arabs, and still within their tribal boundaries.

The pictures at J. Haráza had not, I believe, been previously noticed by Europeans and were only known to a very few of the natives themselves (unless they lied). Those at J. Afárít had been seen by several officers, but no report or description had been made.

As the name J. Afárít suggests, the pictures there are accounted somewhat uncanny in their origin, and I am told that reluctance has sometimes been expressed by the Arabs to visit the spot; personally I found no trace of such a feeling either at J. Haráza or J. Afárít,

The pictures at J. Haráza fall into three categories:—

(1) A highly finished work somewhat resembling the pictures described, by M. Flamand in his article entitled "Les pierres écrites (Hadjrat Mektoubat) du Nord de l'Afrique et spécialement de la région d'In Salah"

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[1] Vague traditions extant say that a certain people called "abu Gonaán" once lived at J. Haráza, but nothing definite is known of them. Another people to whom any relics of a past age that may be found in N. Kordofan are commonly ascribed is the Anag. Whether they include "abu Gonaán," are included by them, or are quite distinct, is not clear. Allusions to them in Quatremère's *Memoires Géographiques et historiques* show that about the end of the seventh century A.D. they lived beyond a barren waterless tract some days away from the Nile, and the allusion may well relate to J. Haráza and the neighbouring hills.

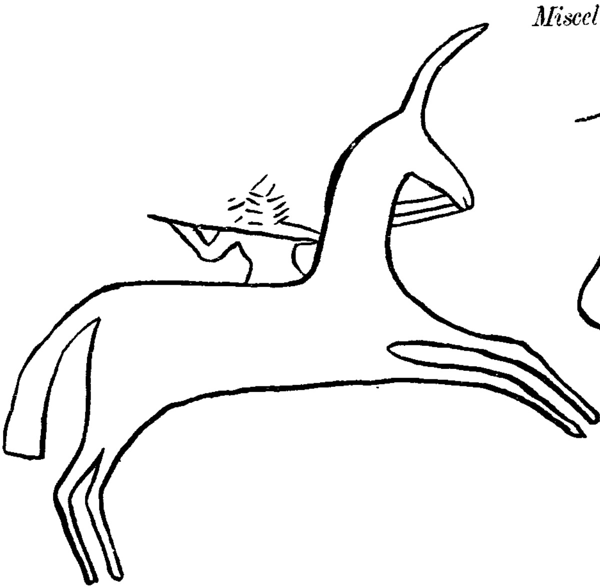

FIG. 1.—J. SHALÁSHI. IN RED PIGMENT. PARTLY OBLITERATED BY RAINS.

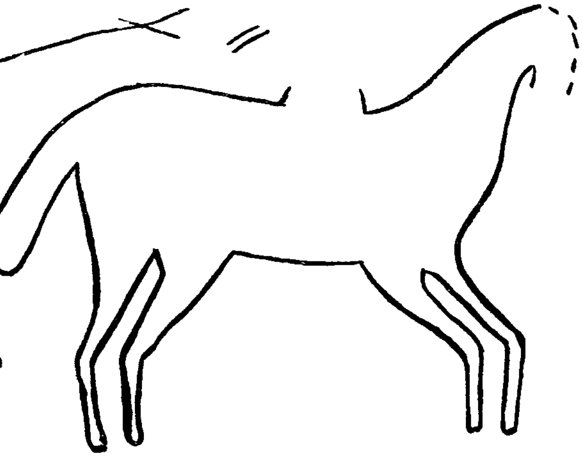

FIG. 2.—J. SHALÁSHI. IN RED PIGMENT.

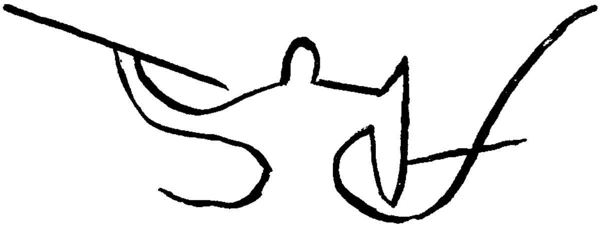

FIG. 3.—J. SHÁLASHI. RED PIGMENT. PART OF FIGURE ONLY REPRODUCED AS IT IS IDENTICAL WITH OTHERS, EXCEPT FOR SHIELD.

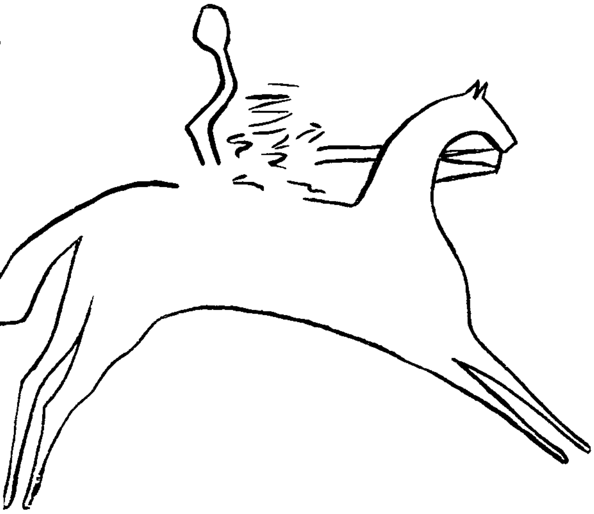

FIG. 4.—J. SHALÁSHI. RED PIGMENT.

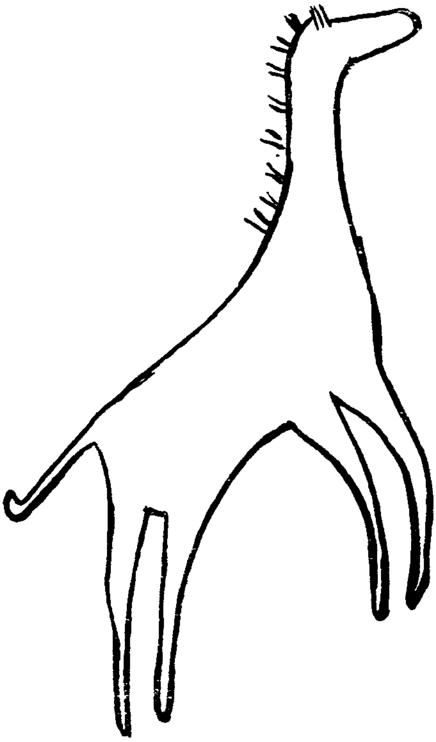

FIG. 5.—J. SHALÁSHI. RED PIGMENT.

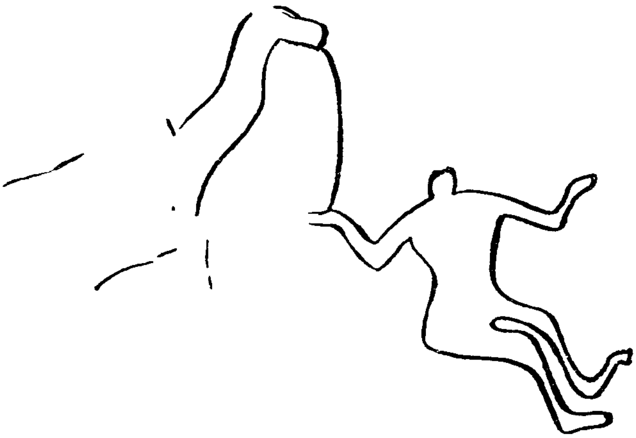

FIG. 6.—J. SHALÁSHI. RED PIGMENT.

(*L'Anthropologie*, vol. xii, 1901), as prehistoric: *i.e.*, they are of a superior workmanship and full of life and movement. The figures represented are men on horseback, giraffes, and hyenas. There are only some half a score figures in all, and they are upon the face of a slanting rock forming a part of the side and roof of a small open cave, some 30 feet up in a heap of boulders of granite known as J. Shaláshi. Some of the figures are in red, and some in white, pigment; the use of the former

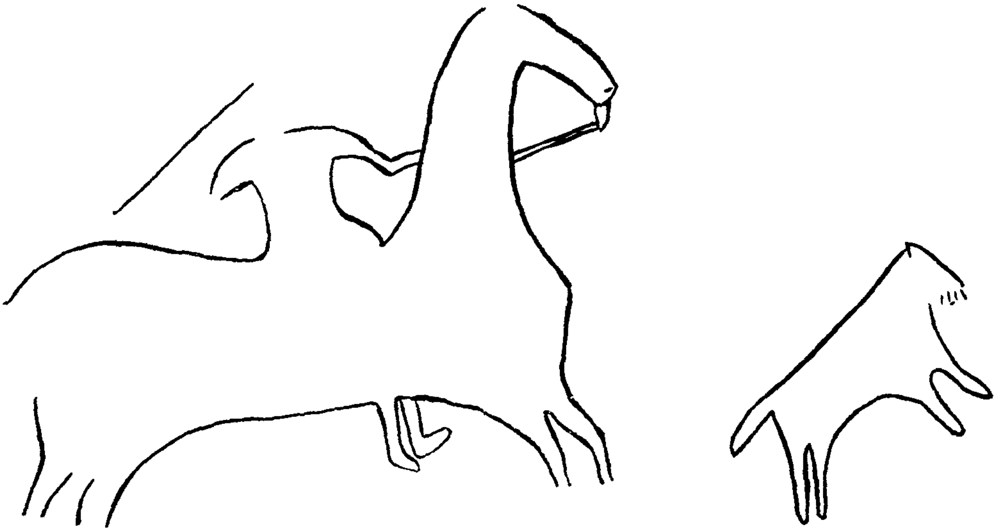

FIG. 7.—J. SHALÁSHI. WHITE PIGMENT.

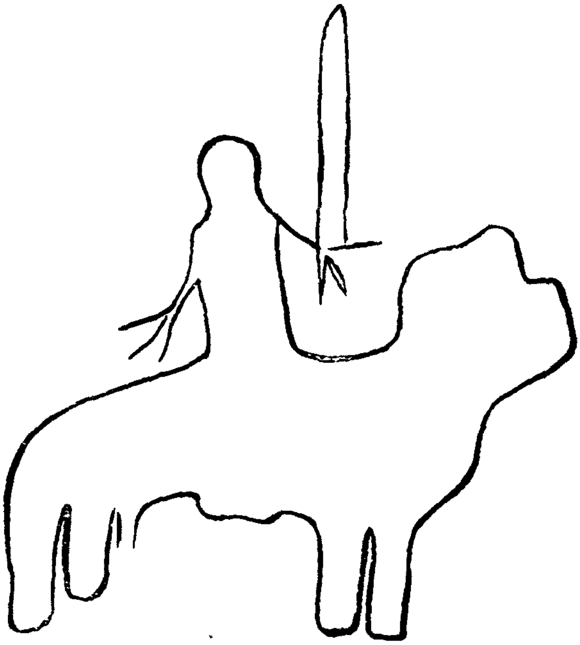

FIG. 8.—J. KARSHŪL. RED PIGMENT. FADED AND INDISTINCT

colour seems common to the whole of Africa from Cape Colony to the Mediterranean, but I have seen no mention of the latter. None of these are graved.

(2) The second group almost exactly corresponds to the common "Libyo-Berber" rock pictures found over the greater part of North Africa and the Tawarek country and described, *e.g.*, by M. Flamand in vol. viii (1897) of *L'Anthropologie* ("Notes sur deux 'pierres écrites' . . . provenant d'El Hadj Mimoun région de Figuig (Sud Oranais)." The workmanship is very rough and inartistic, and suggests imitation of those at J. Shaláshi. They are on the roof of a small cave at the foot of a hill called J. Karshúl. The figures portrayed are mounted men and camels. All the work is in red pigment and is faint and indeterminate.

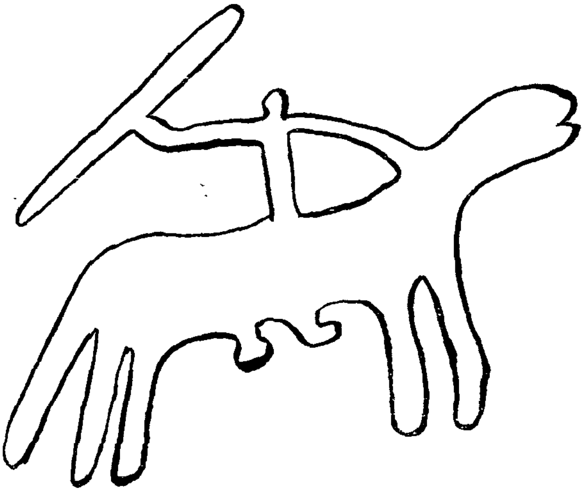

FIG. 9.—J. KARSHÚL. RED PIGMENT. FADED AND INDISTINCT. ABOUT $\frac{1}{6}$.

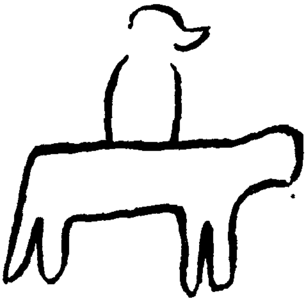

FIG. 10.—J. KARSHÚL.
RED PIGMENT.
FADED AND INDISTINCT.

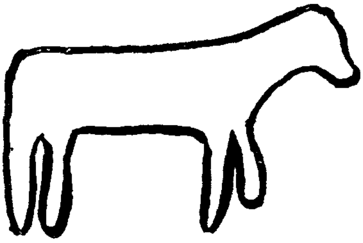

FIG. 11.—J. KARSHÚL.
RED PIGMENT.
FADED AND INDISTINCT.

(3) The third group is very roughly chipped on lumps of granite that lie strewn on the side of a hill called J. Kurkeila. The method of chipping may have been the same as that described by MM. Carette-Bouvet and

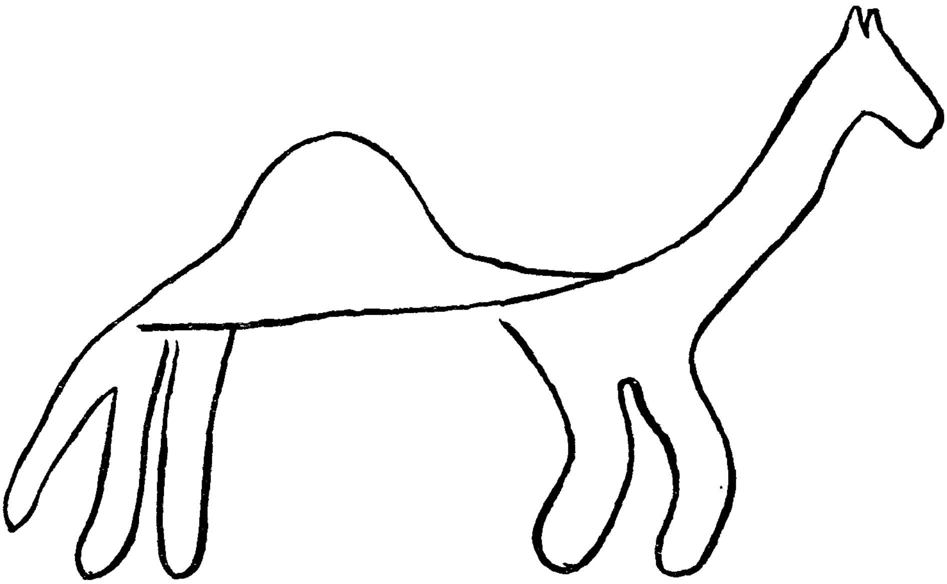

FIG. 12.—J. KARSHÚL. RED PIGMENT. FADED AND INDISTINCT. ABOUT ¼.

Neuvill in "Les pierres gravées de Siaro et de Daga Beid (Somal)," *ide* vol. xvii (1906) of *L'Anthropologie.* No colouring has been attempted, and only animals are represented.

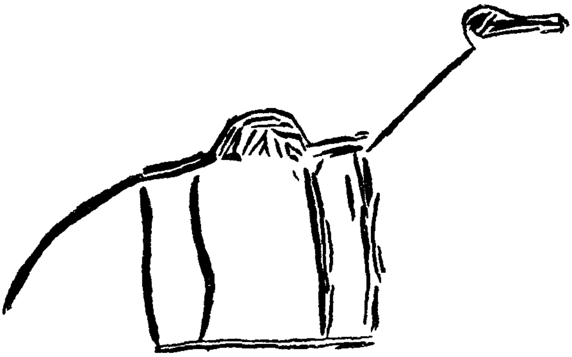

FIG. 13.—J. KURKEILA. CHIPPED ON GRANITE.

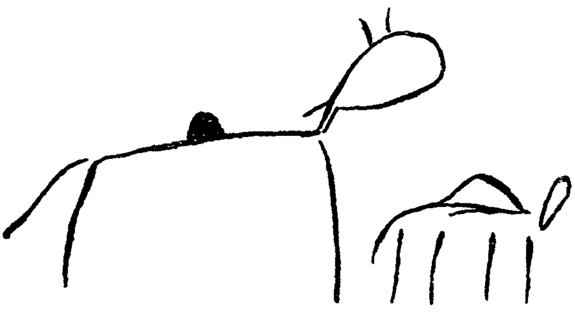

FIG. 14.—J. KURKEILA. CHIPPED ON GRANITE.

That both paintings and engravings are found at J. Haráza is not of course remarkable ; the same occurs in the Pyrenees and South Africa (*vide* "On Rock Engravings of animals and the human figure found in South Africa," by L. Péringuey in the *Transactions of the S. African Philosophical Society*, vol. xviii, part 4).

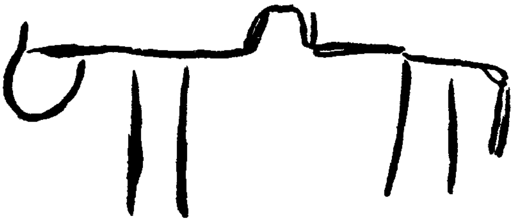

FIG. 15.—J. KURKEILA. CHIPPED ON GRANITE.

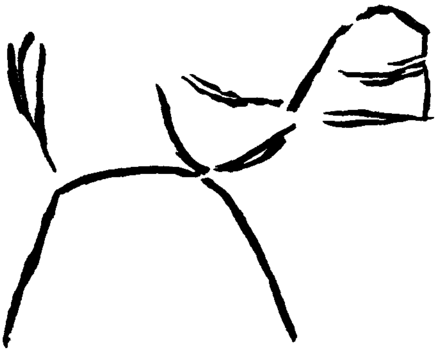

FIG. 16.—J. KURKEILA. CHIPPED ON GRANITE.

The distance between J. J. Shaláshi, Karshúl, and Kurkeila is only a mile or two, all being in the Haráza range.

The pictures at J. Afárít are in blackish pigment and on the slanting face of an overhanging rock some 15 feet up in a heap of boulders almost exactly like that pictured by MM. Carette-Bouvet and Neuville in the article alluded to above. The men carry shields here. Both at J. Haráza and J. Afárít the figures are of an evidently conventionalized type of pictography.

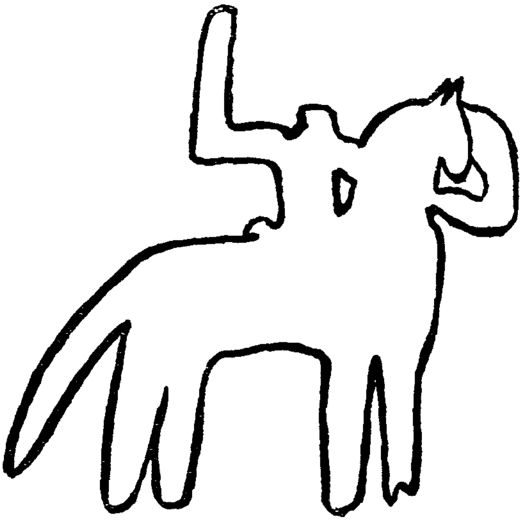

FIG. 17.—J. AFÁRÍT. DARK OR BLACKISH PIGMENT.
NOT IN OUTLINE BUT IN SILHOUETTE.
ABOUT 10 × 10 INCHES.

It is notable that Prof. Gautier (*vide* his "Gravures Rupestres Sud Oranaises et Sahariennes" in *L'Anthropologie*, vol. xv, 1904) found at Aïn Sefra in the neighbourhood of similar rock pictures just such conical circular tumuli of stones as do exist also at J. Haráza; I could, however, find nothing under the stones, although I excavated some 7 or 8 feet down.

There are no inscriptions or hieroglyphics that I could find at either J. Haráza or at J. Afárít.

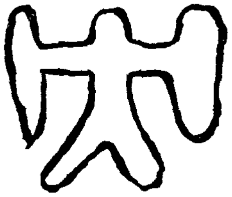

FIG. 18.—J. AFÁRÍT.
DARK OR BLACKISH PIGMENT.
IN SILHOUETTE.
ABOUT 4 × 4 INCHES.

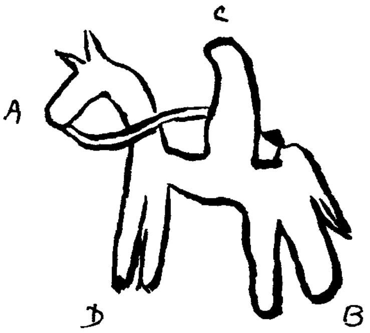

FIG. 19.—J. AFÁRÍT. DARK OR BLACKISH PIGMENT. IN SILHOUETTE. SIZE A—B ABOUT 6½ INCHES; C—D ABOUT 5½ INCHES.

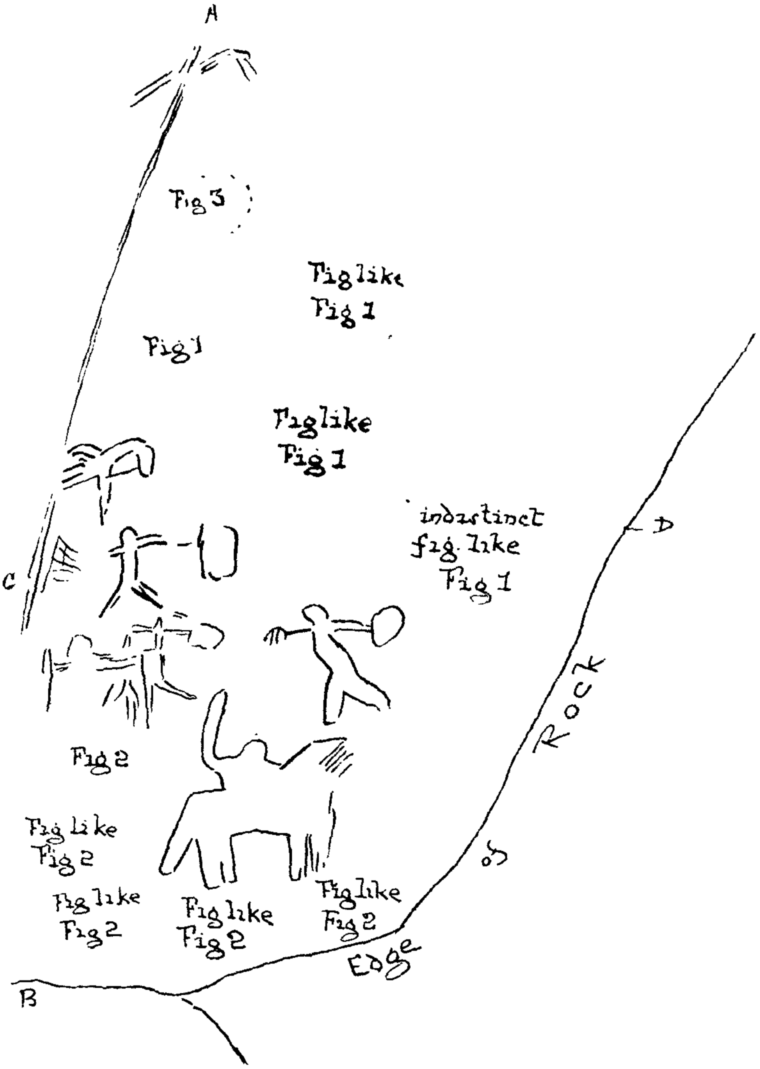

FIG. 20.—J. AFÁRÍT. GENERAL PLAN OF ROCK PICTURES.
FIG. 1 = FIG. 17; 2 = 18; 3 = 19.
SIZE: A—B ABOUT 60 INCHES; C—D ABOUT 25 INCHES.

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ERRATA.

Page 209, n. 1, refers to "nsibidi" not to the "Nyoga-script." *For* "Mausfeld" *read* "Mansfeld," and *for* "Eksi" *read* "Ekoi."

„ 212, l. 20, *for* "have" *read* "had" twice and delete the comma at the end of the line. Line 43, *for* "urukiket" *read* "urukikot."

„ 213. *For* Figs. 1—2A *read* 1—29.

„ 215. In Fig. 39 the two parts of the calabash should be the same size.

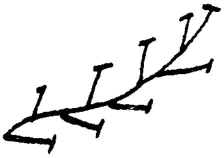
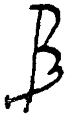
„ 217. Fig. 47 *should be* 

Fig. 62 *should be* 

„ 218, 95. *For* "itnew" *read* "ituen."
In last line *for* "or" *read* "cf."

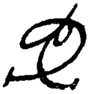
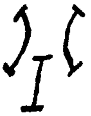
„ 220. Fig. 96 *should be* 

Fig. 98. "k" refers to a sign unfortunately omitted at the foot of the diagram and not to that to which it is attached. This sign is 

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